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The purpose of this study was to describe fully day care programs, to find factors predictive of differences in programs, and to evaluate the effectiveness of day care centers. Teachers in 50 randomly selected day care centers in Los Angeles were observed for four 20-minute periods daily for 10 days. The results indicated the following points: Teachers vary individually in the use of encouragement and restriction, and program formats reflect (through teaching styles) the theories that the adult either is a model for socialization or enforces society's rules. Predictors of program differences are structural characteristics (such as activity, type of settings, number of adults, and age of children) which dictate the amount of teaching involvement and staff attitudes which reflect the amount of their training. Most child-centered staff members were well trained, although some well trained directors were adult-centered. The size and spacial layout of the center regulate teacher performance. Day care was most effective where warm, child-centered teachers provided many stimulating activities, where the staff was flexible, and where children's needs were met. Studies of broad environment factors and of staff decision policies are needed. Data are tabulated and a bibliography is appended. (JS)

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GROUP DAY CARE AS A CHILD-REARING ENVIRONMENT

AN OBSERVATIONAL STUDY OF DAY CARE PROGRAM

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in collaboration with

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PACIFIC OAKS COLLEGE ——————— **1967**
PASADENA, CALIFORNIA

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Prepared for the Children's Bureau, Social
Security Administration, U. S. Department
of Health, Education, and Welfare

November, 1967

PACIFIC OAKS COLLEGE
Pasadena, California

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PREFACE

This study is an outgrowth of a pilot study originally initiated at Welfare Planning Council of Los Angeles Region by the Day Care Committee and Lloyd Street, then Research Director. In the pilot study directors and teachers, and parents whose children were in their care, were interviewed for the purpose of comparing child-rearing practices within the day care center with those found in the home. Both the pilot study and the current research have been supported by the Research and Demonstration Division of the Children's Bureau, Department of Health, Education, and Welfare.

A study such as this is dependent on many people. First, our appreciation goes to the teachers and children who permitted us to observe their experiences together, and to the directors who granted us permission to visit in their centers. We were impressed with the willingness of staff on every level to extend us the courtesy of observing, despite occasional inconvenience and discomfort. Without the cooperation of everyone in the individual centers this project could not have been carried out.

It is impossible to mention everyone who helped. Joan Harris, worked as Associate Director during the first year, participated in all phases of the project's early launching, and deserves much of the credit for translating ideas into methods and procedures. Sybil Kritchevsky, Cynthia Milich,

and Dorothy McDonald were observers throughout the project. Their ability to observe objectively and at the same time to keep alert to gaps in the conceptual scheme, their imaginative suggestions and sturdy good humor strengthened the project immeasureably. Dorothy Baranski kept track of the data in its perilous transfer from coding sheets to IBM cards. Her accuracy in handling monotonous detail in combination with her grasp of the mathematics of data processing and analysis was most helpful.

Ede Haselhoef, project coordinator, more than any other person is responsible for seeing this project to completion. Her energy, good nature, and willingness to tackle any job are unbelievable. She participated as an observer, carried the brunt of the data processing, supervised the endless chores involved in preparing the manuscript and in reproducing it.

Western Data Processing Center at UCLA provided the computer facilities for the data processing. Gale Montgomery was particularly helpful as a consultant and programmer.

The staff at Pacific Oaks offered stimulation, criticism, and suggestions throughout the project. Evangeline Burgess should be mentioned particularly for her contribution to the initiation of the project, and Myrtle Stubkjaer for assistance in locating sources. James Hall gave consultation on problems of design.

We wish to thank our children, Leslie, Sara, and Nancy,

Christopher, Michael, Andrew, Donald, and Suzanne. Their presence sometimes made the writing more difficult, but without them we probably would not have written it at all. Finally, our appreciation goes to our husbands, who are willing to live with the consequences of having wives who persist in extending the definition of home beyond their own front doors.

Pasadena, California

Elizabeth Prescott
Elizabeth Jones

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CHAPTER I

THE PROBLEM

Introduction

The goals of Research Project #219, as described in the original proposal, are to examine and describe differences in program in day care centers by assessing patterns of teaching behavior, to relate differences to social and physical variables within the day care setting, and finally to evaluate the probable effectiveness of group day care in meeting the developmental needs of preschool children.

This project is concerned with the basic question, Is day care good care? While our ultimate purpose is evaluative, we have found it necessary to begin with a description of actual program in day care centers, and to explore the relationship between patterns of teaching behavior and social and physical variables within the day care setting. These data have provided a basis for the development of criteria for assessing the quality of day care program, and for judgments as to the types of intervention likely to be most effective in altering the child-rearing environment provided by the day care center.

Background of the Problem

The day care center, a facility where preschool children are cared for in a group, offers one solution to the problem faced by families in which the mother is not available for full-time care. It represents the most radical departure from traditional patterns of care, and it is also the most enduring organization which is regulated by society to provide substitute care for preschool children. Since their inception in 1854, these centers have spread throughout the country and have become accepted as a recognized facility in many urban communities.

Although the first day care centers were established by philanthropic organizations to provide care for children of indigent mothers, children from all socioeconomic levels may now be found in group day care. Two recent social changes are, in fact, altering our traditional conception in the United States that the optimum environment for preschool children is the home and neighborhood, where supervision is provided by the mother as part of her role as homemaker. One of these changes is the phenomenal increase in maternal employment which has caused many children to be removed from the home during the preschool years. The other is the development of a technologically complex society which can no longer provide work for the uneducated, and the consequent realization that early intervention apparently is necessary if all children are to acquire essential educational skills. Both of these trends are producing an alteration of socialization patterns which involves shared responsibility for the care and guidance of nursery age children. Since these changes do not appear to be reversible, it has become important to learn more about the multiple dimensions which create a child-rearing environment, and to assess the effectiveness of the child welfare services which have been designed to provide care and education for young children.

Functions of Day Care in American Culture

Contemporary American community values are ambivalent with respect to support of day care. On the one hand, acceptance of community responsibility for the welfare of children is reflected in the long history of centers established to care for children from needy families. Provision for day care centers is regarded as a matter of public interest because it insures the supervision of young children who might otherwise be neglected. Health and nutrition, safety, and the learning of appropriate social behavior can be fostered in the center. Such provision has been justified on the grounds that it helps to prevent later delinquency, as well as to foster the healthy development of young children, and thus offers a wise long-range investment.

On the other hand, provision of group care for children implies that their mothers are working. The good mother, in our tradition, is one who stays at home. However, definition of the rights of the individual in a democracy has, in the course of our history, been extended to include the ideal, if not the reality, of non-discrimination by sex in the occupational sphere. Individual rights, as well as labor-force needs for womanpower, thus demand that a woman who can contribute to her family's income, to her personal satisfaction, and/or to the community good through exercise of her particular talents in work should have the opportunity to do so. On the other hand, women who prefer to maintain full responsibility for child rearing should have the right not to work.

The majority of American women currently exercise this right of choice by working before marriage, but withdrawing during the childbearing years; a considerable number again seek jobs when children are in school or have left home. Some, however, for reasons either of economic need or personal satisfaction, also work while their children are of preschool age. Day care services available on a voluntary basis to families who wish to use them are necessary to make possible such choices for women.

Conviction that mothers should have such freedom of choice is as yet a radical position within the range of American community values. More typically, day care has been regarded as an unfortunate necessity for the sake of children whose mothers could not stay at home to care for them. Thus tax-supported provisions for day care, of which California's Children's Centers provide an example, are typically restricted to the children of mothers whose need to work to support their families is established by a means test. Few two-parent families qualify. Such public day care represents a modern version of the type of responsibility communities have historically taken in behalf of "widows and orphans"; the contemporary context within which the centers function is provided by high divorce and separation rates in low-income urban families.

During their relatively short history Children's Centers have met several different types of community need. They were originally established with federal funds in response to a national economic emergency, the Depression of the thirties, with the purpose of providing WPA jobs for unemployed teachers and domestic personnel as well as nutritional services for needy children. Most were continued through World War II with support provided through a second piece of legislation, the Lanham Act, to offer care for children of mothers working in war industries. The wartime objective of releasing womanpower has been continued to a limited extent by the California legislature; Children's Centers permit enrollment of children whose families do not meet the means test if their mothers are employed in positions defined as essential to the state's economy (notably, teaching and nursing). Needy families are given preference, however, and in addition the full cost of care tends to be greater than fees charged by private centers; consequently many centers have few or no children of professional women enrolled.

Public child care can be justified to economy-minded legislators because it permits mothers to work who would otherwise require public welfare aid. Federal legislation under consideration in 1967 has even proposed that day care be made mandatory for mothers receiving public welfare assistance, in order to permit them to enter job training

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programs or employment. This proposal has elicited vigorous opposition from such organizations as the National Committee for the Day Care of Children, which strongly defends the family's sole right to make such decisions, as well as the importance of determining the individual child's readiness to benefit from group day care.[1]

Public and non-profit day care is available as a welfare service to children from those families, usually fatherless, in which mothers cannot stay home. Public subsidy is not available, however, to underwrite child care for mothers who choose not to stay home (nor, incidentally, may such working mothers list child care costs as an income tax deduction). Consequently their demand for child care has been met primarily by commercial enterprises, established to serve the customer in the hallowed free-enterprise tradition. Although the social work literature continues to assume that day care serves problem families who have many additional needs, and who must be given care at reduced rates (Anon., 1962;

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[1] "A good 'mandatory' day care program is a contradiction in terms. No mother should be forced to place her children in day care so that she can go to work. The judgment as to whether a young child needs his mother's constant care and attention is one that, in our society, traditionally belongs first of all to the mother. Society may intervene only when the child is in physical danger. In this instance, however, we are proposing to intervene in circumstances which relate not to danger but to poverty. Such a pattern of intervention may be appropriate in totalitarian countries. It is not appropriate in America." From Statement of National Committee for Day Care of Children to the Committee on Finance, United State Senate, on H.R.12080, Social Security Amendments of 1967, September 22, 1967 (mimeo.).

Merriam, 1965; Wiener, 1956), in reality the bulk of group day care now available in this country is offered not under charitable auspices for reduced fees, but by day care centers operated as private businesses--small service enterprises designed to meet the demands of their particular market (Low, 1960). A recent study by The Child Welfare League of America further indicated that many mothers using day care are employed for reasons other than incidence of family problems (Ruderman, 1964).

Nevertheless, day care for needy families remains the only type of group care with a clearly recognized, although minor, role in the community. Commercial care, while given token recognition through licensing requirements, functions barely noticed by most of the community to serve mothers who work by choice. Working mothers at all socioeconomic levels are more likely to provide care for their children through informal arrangements with other members of the immediate family, other relatives, or friends and neighbors than to enroll children in group day care (Lajewski, 1959), which many regard as a last resort for those lacking other resources. The positive values of group care are recognized by a small but probably increasing number of families, some of whom are influenced by the efforts of commercial centers (especially those serving higher-income neighborhoods) to advertise the educational aspects of their programs. Many centers call themselves nursery schools; and some appeal to parental concern for early education by advertising French, music, and accelerated reading programs as part of their curriculum.

In general, in spite of the potentialities for educating young children which are inherent in the group setting, education as an objective of day care has not received much attention. Public schools have been concerned only with children six and over (or five and over, though the status of public kindergartens is tenuous in many areas); licensing agencies have been concerned primarily with children's health, safety and general welfare. Nor have most of the users of day care exerted pressure for educational standards. There have been exceptions of several types including that mentioned above. Some day care personnel in all types of centers have identified themselves with nursery education, which typically emphasizes part-day programs focused on education of children or parents. Most important, the recent development of federal- and state-sponsored programs for the compensatory education of disadvantaged preschool children is likely to add a new dimension to day care on a wide scale. Some of these programs offer full-day care as a supplement to their primary purpose, education. Long-established day care centers, especially those already serving disadvantaged children, may feel challenged to include a comparable educational emphasis in their own programs.

In summary, a variety of conditions have helped to determine the ways in which day care functions in this country. Conditions fostering the establishment of public and non-profit centers have included (1) community concern for the welfare of young children from disadvantaged families, and (2) historical emergencies (depression and war) in which day care programs were utilized to provide for fuller employment of women. Further expansion of such services has, however, been checked by the general belief that mothers of young children should care for them at home, except when prevented by economic necessity from doing so. Because this belief is discrepant with the actual general rise in maternal employment, a demand for supplementary services has been created; and this demand, by mothers who can afford to pay for care, has been met largely by day care centers established as small business ventures. Finally, poverty-program concern for the education of the young child is encouraging a reassessment of the functions of day care.

Effects of Full Day Care on Young Children

In the past, widespread concern has been expressed for the effects on children of separation from home and mother. This feeling undoubtedly stems from the realization that our culture has no tested alternatives to the traditional home-mother pattern of child rearing, and consequently little is known about the outcomes of unorthodox socialization patterns. These alternatives seem particularly crucial to infants and preschool children, not only because of their extreme dependence upon adults, but also because it is the major part of their waking day that is spent away from their mothers.

Studies which have been concerned with the effects on children of unorthodox socialization experiences usually have focused on the importance of separation from the mother. The belief has been widely held that children should not be separated from their parents. This position received support from the early deprivation studies which described the adverse effects on children of the complete absence of a mother-figure or of sharp breaks in the mother-child relationship (Bowlby, 1952). These early findings were applied to a broad range of separation experiences, from placement in a foster home or a stay at the hospital, to the daily separation from a parent because of maternal employment. With the realization that the term "separation" was being used to cover very dissimilar experiences, and that some children obviously emerged from similar experiences with much less apparent damage than others, more specific formulations of the separation experience have evolved. Data now indicate that not only the type of separation, but also a child's biological inheritance, the quality of previous care, age at separation, and the nature of substitute care all must be considered in evaluating outcomes (Rose, 1962).

The nature of substitute care has not received much attention except for that provided in an institutional setting. Early studies showed that an institutional environment is often associated with retarded development in children (Ainsworth, 1962). Several later studies, however, have indicated that normal children who are placed in group care because of the exigencies of war or other reasons not associated with individual family breakdown do not appear to be adversely affected by the experience (Maas, 1963; Rabban, 1957).

A study by Heinicke (1956) compared the relative effects on two-year-olds of full residential care and day nursery care. Observations of daily behavior and of individual doll play sessions showed important differences in adjustment, with residential care, but not day care, producing severe emotional reactions and disruption of relationship with parents. The available evidence supports the generalization that day care does not produce the deleterious effects often associated with residential care; the day care child maintains his relationship with his parents despite the long day away from home, and is free to participate in the activities provided by the nursery.

The conclusions which may be drawn from previous studies are that children may develop adequately under a variety of circumstances, and that statements about outcomes of a particular environmental alteration apparently need to be tied to detailed information about the nature of the intervening experience. In this research our aim has been the identification of variables within the day care setting which could serve as a basis for detailed evaluation of program. The historical factors which have influenced the development of day care in this country have been instrumental in determining both the organizational structure of day care and the program which takes place within the center.

Structural Characteristics of Day Care

Organization of Day Care Centers

Day care centers in this country operate under three major types of sponsorship: public, non-profit or voluntary, and proprietary or commercial. Two-thirds of the nation's 4,426 centers are proprietary and nearly one-third are non-profit (Low, 1962). California, it may be noted, has an atypical number of public facilities.[2] Its proportion of non-profit centers is correspondingly reduced.

Most public centers limit their services to low-income families, as do some but not all of the non-profit facilities. In contrast, availability of the services of proprietary centers is dependent upon a family's ability to pay; the fees charged, however, vary over a wide range.

While there is considerable variation in size of day care centers, the majority serve more than ten but less than fifty children (Low, 1962). Two-thirds serve preschool children only; the remainder offer extended day care to school-age children as well. While about two-thirds offer full day care only, a substantial proportion of centers also accept part-day enrollments (Low, 1962).

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[2] Low gives 7% as the national figure for percentage of centers under public auspices, but notes that if California were excluded, this figure would fall to 1.3% (Low, 1962, p. 4). In Los Angeles County nearly one-fourth of all centers offering full day care are public (Jones and Prescott, 1964).

Licensing

The policies and procedures of licensing agencies are important influences on day care program, though they ordinarily establish only minimum standards, not criteria for optimal care. Licensing requirements are variable among the states, but common trends are evident. In 1960 three-fourths of the states required licensing of day care centers, and the agency most commonly responsible (in 62 percent of the states) was the state's department of public welfare (Low, 1962).

The laws of the state of California provide the licensing framework within which the centers sampled in this study operate. In California all group programs for preschool children which are under proprietary or non-profit auspices are licensed by the State Department of Social Welfare. Its jurisdiction includes not only full-day programs but also half-day nursery schools, except for those established by the State Board of Education and administered by local school districts or those administered by a college or university.

In contrast to many states, California has a long history of licensing of child care. Licensing was well-established by World War I. Over the years the focus of the licensing function has shifted from a primary concern for safety factors and matters of physical care, such as rest and nutrition, to a much broader concern for the emotional and developmental needs of children. This shift in emphasis is due partly to changes in the conception over the years of good care for children, but it is undoubtedly also due to the influence of social welfare supervision over day care in California.

In order to facilitate this attitude, the Department has developed an approach to enforcement which is flexible and persuasive rather than legalistic, and which permits concern with standards beyond the minimum legally-established ones (California [State], 1964). Certain regulations concerning space, sanitation, and ratios of children to adults are specific and absolute. In capsule form these are:

(1) No child under 2 years of age may be accepted in group care.

(2) Each school must have 35 square feet of usable indoor space and 75 square feet of yard area per child, and a kitchen used only for preparation of meals.

(3) There must be one adult for every 10 children under age 5.

(4) A license is granted for only one year at a time. Reapplication must be made each year.

Many other regulations are couched in general terms, such as that quoted below for qualifications of staff.

> All persons having direct contact with children must be of suitable age and temperament for work with children. These persons must have the following qualifications.
> 1. They must be mature responsible adults.
> 2. They must have the qualities of warmth and friendliness.
> 3. They must have the ability to understand and accept individual differences in children and in all persons with whom they will be working (California [State], 1964, section DN-141).

The Department has developed two procedures through which its concerns are enforced in areas where the code can be only nebulous. One is strict control over the issuance of licenses to new applicants. Applicants are required, through a schedule of meetings and interviews, to provide extensive proof of their experience and competence, integrity, and financial solvency. The other is the development of and reliance on consulting skills rather than rule enforcement in supervising centers which already are in operation.

This approach requires licensing personnel who have the skills or can be trained to implement the aims and concerns of the Department. The qualifications for licensing personnel include training and experience in the social work field. New employees are given on-the-job training and sent to workshops for specialized training in child development during the preschool years and its application to the day nursery field.

The placement of licensing under the jurisdiction of the Department of Social Welfare and the decision of the Department to concern itself with all aspects of the day nursery environment rather than only those which can be defined legally probably have resulted in (1) the exclusion from the day care field of some persons who might have secured licenses in other states and (2) a definite pressure in established centers toward the development of practices and program which reflect current nursery school philosophy.

Professional Influences on Day Care

The ambiguous position of day care in American society is not counteracted by a set of consistent professional influences. Any occupation which is well professionalized has codes of behavior controlled mainly by the members themselves; standards are set for entering the occupational group and for remaining in good standing within it. The judgment of his peers is the professional person's most important point of reference. Development of this form of control depends on the existence of a corps of full-time workers engaged in similar activities and permanently committed to their work.

> There must also be some degree of autonomy and a sense of performing a distinctive and valued activity. A potential profession cannot develop when there is no work basis for cultivating a sense of common identity (Clark, 1958, p. 152).

Day care, far from possessing a sense of common identity, is fragmented by organizational differences and by the widely varying backgrounds of its personnel. The persons professionally concerned with day care services, as policy makers, licensing staff, administrators and teachers, represent several disciplines. Social work has taken the initiative at the policy and licensing levels. General standards for day care have been formulated most clearly by child welfare workers through their professional organization (Child Welfare League, 1960); emphasis has been placed on day care as a family welfare service in which needs of families as well as children should determine practices.

But social workers themselves rarely administer or teach in day care centers. The persons who do are best described as sub-professional, in terms of criteria of preparation, career patterns, remuneration, and professional identification. The professional identification of directors and teachers is variable and, in many cases, non-existent. The individuals directly involved in the day-to-day operation of day care centers may regard themselves as educators, small business operators, or just people who take care of little children. Those professionally active beyond their own center are more likely to be identified only with other public child care teachers in Los Angeles, for example, or with other private nursery owners, than with a profession as a whole (Jones and Prescott, 1964; Jones, 1963).

Their relation to social work typically is limited to contacts with their licensing worker, whose influence derives not from her status as fellow-professional, but from her position as official representative of the governmental agency which must approve the center's existence. While center staff will make every effort to create a favorable impression, they may not, in fact, regard the social worker's expectations as realistic. Witness for example the large gap between social work standards for home-center relationships (Child Welfare League, 1960) and actual practice in most day care centers.[3] Further, social work as a discipline does not provide specific suggestions to help the teacher in her most pressing concern: what activities to include in the child's long day.

Social workers have borrowed such suggestions from child development theory, especially as translated into practice in nursery education; and directors and teachers may utilize the suggestions of their licensing workers, when these are forthcoming. Teachers also have direct access to ideas from nursery education, through published sources and in-service education classes; from kindergarten-primary education, in which some were originally trained; and from their personal experience as mothers, aunts, and baby sitters.

Although those directors and teachers who regard themselves as professional are most likely to identify with the teaching profession, they lack the common background which standardized educational preparation would provide. College curricula designed to prepare teachers of pre-kindergarten children have not been common, nor have most day care teachers completed such programs. State credential requirements for teachers of young children, such as exist in New York, are exceptional. Even in a state like California with a long history of licensing, educational requirements for day care personnel have been limited; licensing legislation has been more concerned with standards for health and safety than with establishing criteria for competence of staff.

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[3] "[In this respect] most of the centers we observed were seriously lacking. Since the parents, teachers, and directors who participated in this study impressed us as being competent and committed to high standards of care, it may be that these standards are very difficult to meet in a group day care setting." (Prescott, 1965, p. 40)

Data from several California surveys (reported in Jones and Prescott, 1964, pp. 24-35) have indicated that the great majority of both teachers and directors in day care centers and nursery schools in that state have had some college education. However, only about one-fifth of teachers and one-third of directors surveyed in 1957 to 1962 had a bachelor's degree or better. Since that time educational requirements have been proposed, though not yet adopted, for personnel in facilities licensed by the State Department of Social Welfare. Revisions have also been made in the requirements for the Children's Center Permit, which must be held by teaching staff in public day care centers administered by the State Department of Education. Conflicting pressures applied in relation to the adoption of revised educational standards have meant that revisions have not consistently resulted in raising standards. Nor do current regulations affect teachers employed prior to a designated date, who are exempted on the basis of their long service. Nevertheless, opportunities for both pre-service and in-service education for nursery personnel at junior college, upper-division and graduate levels have greatly increased in recent years. The majority of California teachers and directors surveyed had taken some college courses or workshops related directly to their vocation.

Standards for the preparation of day care and nursery school teachers have been recommended by several national professional organizations. Most clear-cut are those of the Association for Childhood Education International, an organization composed primarily of kindergarten-primary teachers, which state that nursery school teachers should qualify for state teaching credentials and detail specifics of preparation. The Child Welfare League of America endorses these same standards for teachers in day care centers (Child Welfare League, 1960, pp. 98-99). Organizations which represent members who have themselves completed recognized professional preparation have thus been able to agree that professional preparation is also essential for teachers of young children. Very few day care teachers, however, are active or influential in these organizations.

Nursery education, a much more diverse field, has its own professional organization in the National Association for the Education of Young Children (formerly the National Association for Nursery Education), in which day care as well as nursery school personnel have been active in leadership roles. This organization, which seeks to be broadly representative of the field, has not agreed on an official statement on standards, though pressure for such a statement has been exerted within the organization. Since its membership includes persons whose professional roots may be in child development, psychology, education, home economics and other fields, perhaps consensus on this point is not to be expected. While this organization successfully fosters a sense of identity among child development-oriented workers in several fields, it does not offer a clear-cut professional identification to those in need of one.

Significance of the Study

The varying organizational characteristics of day care are found in innumerable combinations in individual centers. It is to be expected, for example, that the large public center with college-educated teachers working under school district supervision, the small proprietary center licensed by the welfare department and providing a home-like setting for children from lower-income Negro families, and the middle-sized day care center connected with a sectarian elementary school and conforming to the school's daily schedule, will differ in the program each offers to the children enrolled. Goals, financial resources, physical settings, and staff skills are among the variables which interact to determine what children actually experience in a given day care center.

Certain aspects of program are predetermined by the developmental characteristics and physical needs of young children, the necessity of supervising children's behavior in groups, and the length of the day. All centers necessarily share a concern for keeping children under control and reasonably contented during the long day. Practical ideas for techniques of management and activities interesting to young children will thus be sought by day care personnel everywhere, to be sifted and selected in terms of their own goals and competencies and the limitations imposed by the setting in which they work.

The staff of the day care center constructs program for children by providing activities (e.g., paint, blocks, stories, swings, lunch, nap) at designated times of the day, week, or longer period; establishing formats for their use by children (e.g., free play, directed group activity); and influencing children's selection and use of activities through the many individual actions and interactions which constitute a teacher's role behavior. It is typical of day care staff that they display more skill in constructing program than in describing it to outsiders. Development of a vocabulary which can facilitate such communication is of major importance in enabling day care to function most effectively. When child rearing is a matter shared between the home and the day care center, communication between the two is essential. Home is the base for the child even though he spends a large part of his day in a substitute environment; the family is central to the young child's integrity as an individual. The longer the hours of the program and the younger the child, the more imperative it is that the family be included in some respects in planning the nature of his experience in day care.

There is no clear evidence that day care as such is harmful to children, but there is every reason to believe that the benefit or detriment of the experience for a child varies both with his individual needs and with the type of program offered in the center. Sponsoring agencies, licensing bodies, and professional organizations have established standards for day care programs. However, the existence of standards is not, beyond an absolute minimum, clearly predictive of actual program quality.

While we have some understanding of the developmental needs of young children, the ways in which day care programs operate to meet these needs are not well known. Given the great diversity in characteristics of day care centers, it is likely that both content and distribution of children's experiences in them will vary greatly. The characteristics of any setting in which events and behavior occur constitute inherent regulatory features which determine, to a considerable extent, the activities and types of behavior that will probably occur within its boundaries. When a setting is not optimal for certain activities and behaviors, these actions are not likely to occur unless the persons in the setting are highly motivated to secure them and are exceptionally skilled in facilitating them (Prescott, 1965, p. 1).

Under what circumstances, we have asked, does group day care provide an adequate child-rearing environment? While group day care has a long history in this country, it has been gradually changing in organizational patterns and in some of its objectives, and an increasing number of children are being served. As its purposes broaden, day care may lose some of the community support gained on the basis of its original clear and limited welfare goals. Skill in adequate interpretation of new objectives and the means by which they can be achieved must be acquired by those concerned with young children in day care.

There are certain questions to which answers are needed. What actually happens in day care? What factors determine variation in what happens? What effects do different day care programs have on children? In seeking to provide some answers, we have found it necessary to begin by trying to develop a usable vocabulary--a set of operationally defined categories--with which to describe day care program. We have applied this vocabulary in an observational study of program in day care centers.

We know of no previous large-scale observational studies of program in either day care centers or nursery schools. The existing research, which will be reviewed in the following chapter, has either utilized teachers' reports of philosophy and practices or, if based on observational data, has been limited to a small number of centers. Detailed information on the actual operation of a representative sample of day care programs should make it possible to evaluate the effectiveness of group care as it now exists in an American community, and to consider the ways in which group care might best complement home care.

In summary, the present study is designed to:

1) describe program, with emphasis on teacher behavior and the settings in which it occurs, in a representative sample of day care centers in Los Angeles County;

2) identify the factors predictive of differences in day care program;

3) evaluate the probable effectiveness of group day care in meeting the developmental needs of children, and consider possibilities for interventions which might alter or support certain aspects of the child-rearing environment provided in day care centers.

CHAPTER II

THE CONCEPTUAL FRAMEWORK

Introduction

An environment has been described as "the sum of the external conditions and factors potentially capable of influencing an organism" (English, 1958, p. 182). In order to evaluate the child-rearing environment provided by group day care we obviously could not begin to examine all of the conditions potentially capable of influencing the children. Out of necessity we had to develop some basis for a selection of measurable dimensions from all those which we might have examined. Since our basic concern was for the healthy development of children during the preschool years, our conceptualization of growth during this period became central to all choices of variables. From children's needs we moved to aspects of day care program, especially the behavior of teachers, and to a specification of the behavior which we would observe. At this point we were faced with selecting factors which might best explain or predict this behavior. We decided to look not only at some of the personal characteristics of the teachers, but also at variations found in the settings in which they worked. Both factors, we felt, were important in understanding why teachers behave as they do. Finally, in order to evaluate the environment which we had specified by means of the variables selected, we needed to have some basis for understanding how the separate parts might work as a whole, so that the quality of the day care experience for children with differing needs might be estimated.

At each choice point we were guided by existing theoretical formulations and by previous research. The sections which follow explain our choices and give some of the rationale on which they were based.

Development in Early Childhood

In this study, healthy childhood growth is conceptualized as following a series of developmental steps whose general features have been outlined in the psychological literature, especially the works of Erikson (1950). The preschool period, under consideration here, is viewed as a transition period between infancy and entrance to school. According to a developmental conceptualization, a most important realignment of energy must occur during the preschool period. Children must learn to direct their initiative into socially acceptable channels and to postpone their wishes to be adults. The process appears to follow a pattern which is somewhat different for boys than for girls and is best facilitated by the presence of both the mother and the father. When this shift is successfully completed, a child is free to devote his full powers to the tasks of the school years. If this development does not occur, the child cannot utilize his interests in ways which are supported by society, with the result that his initiative is crippled.

During infancy, the child's energy is directed primarily toward obtaining bodily satisfaction. After children have mastered the physical skills necessary for moving about freely and easily and have learned to depend upon adults to provide for basic needs, they ordinarily direct their attention toward the world about them. Characteristic of the preschool period are increased language skills which enable children to play cooperatively with their peers and to observe and act out adult roles. They also begin to understand that they belong to one sex and not to the other, and that they will some day become adults.

The type of help which the child needs from adults during this period differs from that required during infancy. The infant most needs adults who can give dependable nurture and patient physical care. During the preschool period a child needs adults who are friendly, but who also are strong and clear in their directives and capable of participating in and extending the child's enthusiasm for a widening world. The adult must communicate clearly to the child the rules of society (both directly and as a model) and constantly show the child how he may accomplish his own purposes within the framework imposed by these rules.

To be most effective, the adult also needs to help the child translate his wishes, feelings, and ideas into language. The acquisition of a high degree of language skill appears to increase the child's control of his own behavior and also gives him a powerful tool for comprehending the physical and social environment and for making himself understood (Vygotsky, 1962; Luria, 1961). Although factors within the child have been demonstrated to affect the course of growth (Murphy, 1962; Escalona and Heider, 1959), the impact of physical and social environment has always been recognized.

Interpersonal learning is of particular importance during the preschool period. In interaction with other persons, particularly with adults, though also with children, the child is gaining an understanding of who he is, what he can do, and what is expected of him. He learns by watching what adults do, by entering into activities and experiences which they provide for him, and by reacting to the circumstances which elicit adult attention, either positive or negative.

The Teacher's Role in Child Rearing

The centrality of the teacher's role in influencing children's behavior has been demonstrated by studies of both preschool and elementary school classrooms. Glidewell *et al.* (1966) have summarized many of these findings, which they regard as confirming the "great social power" of the classroom teacher. While most such studies have been conducted at the elementary level, H. H. Anderson's studies on the influence of dominative and integrative teacher behavior (1939a, b) were made in nursery and kindergarten settings.

Both in planning activities for children and in her actual behavior with children, the teacher determines the nature of the nursery experience for the child. Consistent differences among teachers in methods used and in the climate or atmosphere created in the classroom have been observed by Landreth et al (1943), Tucker (1940), and Reichenberg-Hackett (1962). Those studies which have examined the effects of teacher behavior upon child behavior (Anderson, 1939a, b; Thompson, 1944; Johnson, 1935b; McClure, 1936; Moore, 1938) are summarized by Swift (1964) as follows:

> In general, the research findings indicate that techniques which take into account the child's own interests and goals, which build on these to further educational goals, and which are specific and clearly understandable to the child, will be most effective in promoting learning. In order to carry out these techniques the teacher must be child-centered in her approach, aware of the child's needs, and willing to adapt to his goals while pursuing her own (educational goals) for him. (Swift, 1964, p. 268)

Swift has also summarized a variety of experimental studies of adult-child interaction (see Swift, pp. 268-270) as further emphasizing the importance of the teacher's role. These studies indicate that the young child is highly dependent on the adult for approval, direction and attention, and shows strong tendencies to model his behavior on that of a nurturant adult.

Our conceptualization of the components of teacher activity draws particularly on the research of Reichenberg-Hackett (1962), which was aimed at identifying the techniques by which nursery school teachers influence child development and the attitudes and values transmitted to children in these early group experiences. We assume that teacher behavior which promotes healthy development will include, in varying degrees, all of these aspects:

> Encouragement: Teacher behavior which facilitates the child's expression of his ideas and helps him to expand his own self-initiated activities. Also behavior which increases the child's knowledge in the areas of physical and social skills, intellectual attainment, and self-responsibility. (Some of this behavior will be coded as Teacher Direction.)
>
> Guidance: Teacher behavior which helps the child to understand procedures and rules.
>
> Restriction: Teacher behavior which makes it clear to a child, without damaging his self-esteem, that there are limits which must be respected.
>
> Neutral: Teacher behavior which results in exchange of information or expression of opinion which facilitates mutual understanding, but is characterized by equality and absence of intent to influence.

It is a combination of teacher activity, rather than a single type, which will provide the framework to support the child's developmental needs. Emphasis on any one component may not provide the child with the experience to deal adequately with later demands placed upon him. The framework which is thus provided must have these three characteristics: (1) it must be clear and not confuse the child about his rights nor undermine his self-esteem; (2) it must provide opportunities for the child to use his initiative and to experience autonomy; (3) it must be broad enough to provide the child with competence and knowledge which can be used dependably in his expanding world of school and society.

The formulation of specific coding categories described in Chapter III is based on this conceptualization. However, the coding categories have been expanded to include teacher behavior which does not necessarily contain elements considered optimal (e.g., restrictive behavior which is damaging to the child's self-esteem).

Summary

The adequacy of the child-rearing environment provided by day care centers has been conceived as a function of (1) the developmental needs of children and (2) the opportunities for meeting these needs which are provided by the teacher. In this study the impersonal factors in the environment (i.e., the physical setting and its contents) will be considered primarily as they appear to determine or to implement the behavior of the teacher as she plans experiences for and interacts with children. We have thus adopted the developmental theorists' emphasis on the primacy of interpersonal learning in the early years of childhood.

The presentation in the sections which follow reflects our threefold goal: to describe program in day care centers, to develop predictors of teacher behavior and program format, and to evaluate selected aspects of day care program. We shall review our approaches in the light of previous research and delineate the variables selected for use in this study.

Description

Our first goal is to describe what we have observed, looking for regularities which can be communicated and consequently examined. We began the pilot phase of this study with the aim of observing day care program and the conviction that teacher behavior was a principal component of program; beyond this, our guidelines for proceeding were few. Initially we attempted to describe not only teacher behavior, in terms of the categories stated in our conceptual framework, but also the activities engaged in by both teacher and children.

The resultant mass of data proved both unmanageable and unfruitful. To the extent to which individual children were engaging simultaneously in different activities, with the teacher moving from one to another--and a large amount of day care program fits this description--our descriptive data presented a patchwork not amenable to categorization. We were not attempting in this study to describe the environment as experienced by the individual child, but as it constitutes experiences potentially available to all the children. What we eventually hit upon was a scheme for indicating the extent to which experiences actually were made available to all the children, and in what way. This classification of program format also gave us a way of summarizing some essentials of both activities and schedule.

As previously stated in Chapter I, we are conceptualizing day care program as involving four components: activities, schedule, format, and teacher behavior. We have found that the last two lend themselves best to the sort of systematic observation and generalization at which we are aiming.

Actually, curriculum content--equipment, materials, and activities--and the daily schedule within which these are made available are fairly standard in programs for young children. The manner of their presentation, however, takes distinct patterns in different centers, and it is this aspect of program, together with the teacher's ongoing interaction with children, that we have chosen to emphasize as crucial in determining the environment for young children in day care.

Before we go on to review related research, we may note that it would be feasible to describe activities and scheduling in more detail by developing a classification of types of activities. In our description of physical space (to be discussed in Chapter VIII) we have developed such a classification of types of outdoor equipment and used it as a measure of the variety of experiences offered children. We could not have applied such a classification to activities, however, without carrying out far more extensive time sampling in centers than we did; and as elsewhere described, the amount of observation we scheduled appeared to be the maximum acceptable to directors in many centers.

Previous Research on Group Programs for Young Children

Few previous studies have been concerned with identifying program differences in day care centers or nursery schools, and none have described program as it is actually carried out in a large sample of centers. Sears and Dowley

(1963) provide an informative review of program differences examined in terms of objectives in nursery school teaching; their review summarizes general writings in the field, rather than reporting survey-type data on actual programs. They identify two kinds of goals:

1) Those which emphasize the learnings of children as a group--". . . the efficient learning of routines, of ability to follow directions in a group, of acceptance of authority, and of attitudes conducive to harmony between individual children's wishes and the needs and wishes of the group" (p. 816). Teachers in such programs tend to look at the preschool as an extension of the elementary school downward; they strive to socialize children in preparation for kindergarten and first grade.

2) Those concerned with modifying and directing the behavior of individual children. The teacher plans curriculum for each child, rather than emphasizing routines and learnings for all the children together. The nursery school is seen "as an extension of the child's home outward--a supplement to the experiences and relationships he has known within his family. Recognition of the child as an individual with a need to discover, experiment, and explore the world outside his home determines the objectives of his learnings. Conformity is less emphasized" (p. 816).

Many studies (reviewed in Sears and Dowley, 1963; Swift, 1964) have been concerned with the development and assessment of specific activities for stimulating selected learnings in young children in group settings. These studies are typically experimental in design. They have generally found that the acquisition of a skill is dependent on both maturation and experience, and that the value of practice depends on the skill involved. Effective program planning for young children is thus based on identifying the child's developmental readiness for certain types of learning and providing appropriate experiences.

Reichenberg-Hackett's study of differences in teacher behavior in ten nursery schools has been mentioned above and will be described more fully below. It provides the closest parallel to the present study, which, however, is based on a much larger sample and concerned exclusively with full day care.

Moustakas and Berson (1956) conducted an extensive questionnaire study of theories and practices in a nationwide sample of nursery schools and child care centers. Information was secured from 312 teachers by means of a questionnaire of 40 theory and 40 practice items dealing with five basic aspects of the curriculum: physical well-being, emotional climate, social values and growth, intellectual and artistic experience, and parent-teacher relations. Questions were designed to test teachers' adherence to "four major educational theories" identified by the authors and described at length in their report of the study: laissez-faire (emphasizing nonintervention, individuality, free expression), authoritarian (teacher direction, group standards, social values), democratic (democratic leadership, individuality, group responsibility), and child-centered (empathic responsiveness, self-exploration and enhancement). None of the teachers studied followed any one theory exclusively; some were basically oriented toward one or another, while others were eclectic.

Patterns of Program Format

The conceptualization of program format used in the present study resembles in part those reviewed above, but has its base in the empirical data gained in pilot observations made for this study. We identified four commonly occurring patterns (in addition to lunch time and other necessary routines):

> *Free play*: Children are free to choose among all activities available in the room or yard such as swings, sand pile, climbing equipment, etc. The teacher has not made prior preparations, but uses the play area as it exists.
>
> *Free choice*: Children are free to choose among all activities available; however, the teacher has made prior preparation and has set up one or more activities *especially* for this play period such as a clay table or water play.
>
> *Teacher-directed group activity*: The teacher leads an activity in which the children participate as a group, such as story time, music, or rhythm games. Children are expected or required to participate.
>
> *Teacher-directed individual activity*: The teacher has planned an activity in which all children are expected to participate, but which is carried out individually by each child such as painting, pasting, puzzles, or drawing.

We hypothesize that several or all of these formats will be found in all centers, but that centers will differ in their choice of a predominant program format. Patterns of program format are expected to show a consistent relationship with patterns of teacher behavior.

Patterns of Teacher Behavior

The observational scheme developed for the present study draws most heavily on Reichenberg-Hackett (1962), who developed a method of observation based on an "episode" technique originated by Barker (1954) and used it to examine teacher behavior in selected nursery schools. The behavior of teachers in ten schools was classified by combining a number of the dimensions of teacher behavior included in other studies (Anderson, 1939a, 1939b; Thompson, 1944; Bishop, 1951). In the teacher motivating techniques of encouragement and discouragement, as well as in the values stressed and the amount of child-centered behavior exhibited, Reichenberg-Hackett found large differences among teachers, reflecting the wide range of experiences to which children in different nursery groups may be exposed.

Throughout the day children initiate contacts with the teacher which will require a response from her. She in turn also will initiate contacts which will change the course of action both for the group and for the individual child. These contacts between teacher and children are viewed as choice points, because they require a decision on the part of the teacher. Some choice points are defined by the children, but many are defined by the teacher's decision to intervene. This conceptualization implies that the teacher is faced with two problems of decision-making: (1) when to act, and (2) how to act. It is assumed that teachers will differ greatly in their definition of choice points and in their response to them. They may also differ in ease of decision-making and in versatility of response. It should be possible to elucidate these differences by examining the total teacher behavior which falls into each of the categories described. Furthermore, it is expected that these differences will not be entirely idiosyncratic, but will form patterns which can be described and analyzed.

These differences will be reflected in the amount of interaction with children. They also will be reflected by the frequency with which teachers habitually select responses in the categories of encouragement, guidance, and restriction. This tendency to respond to various choice points in predictable ways is defined as a pattern of teacher behavior. These patterns will depend upon the particular ways in which a teacher defines her job responsibility and upon other factors which will facilitate or impede her job performance.

As we made episodic observations in the pilot phase of this study, it seemed to us that the data they provided on teacher behavior were incomplete. Because we wanted to correlate our impressions with specific data, we added global ratings on teacher manner, tempo, amount of teacher verbalization, and lessons taught. The latter category is adapted from Reichenberg-Hackett, and ratings are made based on the observer's perception of the teacher's activity during the observational period. The total situation is judged by the observer as reflecting teaching emphasis on physical skills, social skills, intellectual attainment, or self-responsibility, with sub-categories in each area.

Summary

In describing program format and teacher behavior in day care centers, we are simultaneously gaining information about day care programs as they currently operate and identifying the dependent variables about which we are interested in making predictions. Once we can describe what happens in day care, we should be able to identify factors which are related to the differences we observe in program. The next section considers the background variables which we selected as likely predictors of teacher behavior and program format in day care.

Prediction

Underlying this study is the assumption that program in day care centers can not only be systematically described, but also can be predicted on the basis of variation in other selected variables. It is our hypothesis that program will be structured by the interpersonal setting, the physical setting, the attitudes of teaching staff, and the leadership style of the director. These variables will in turn be influenced by the professional preparation of the staff and by sponsorship and other organizational characteristics.

The examination of relationships among variables to establish bases for prediction of variation in day care program will occupy the larger part of our data analysis. In this section a conceptual background will be provided for the predictive variables which we have selected.

Interpersonal Setting

The setting in which teacher behavior occurs includes the social characteristics of others, particularly the children. Of readily identifiable characteristics, age of children and their socioeconomic status have been most widely described as influential on teacher behavior.

Age differences are readily recognized by parents, developmental theorists and curriculum planners alike as basic in determining differences in children's behavior and needs. Group care is generally regarded as inappropriate for children under two, and its suitability for two-year-olds has been questioned (Child Welfare League, 1960). Within the rather narrow age range served by the day care center, does teacher behavior vary with age of children?

Other studies have provided some basis for predicting such variation. Foster (1930), Appel (1942), Landreth (1943), and Reichenberg-Hackett (1962) have all reported relatively consistent differences in teacher behavior related to the age of children in the nursery group.

Socioeconomic differences among the recipients of professional behavior have been cited by a number of studies as influential in determining that behavior. Hollingshead and Redlich (1958) have documented differential response to patients by psychiatrists; Hollingshead (1949), among others, has described teachers' differential treatment of public school students according to social class. It is difficult to anticipate whether these findings are generalizable to the nursery level. Prescott (1964, 1965) has presented some preliminary findings concerning the relationship of emotional climate in day care centers and socioeconomic level of clients.

Physical and Temporal Environment

It is to be expected that program format and teacher behavior will be regulated in part by the physical setting in which they occur. The importance of these variables is implied by the widespread establishment of legal standards for space per child, sanitary and kitchen facilities, number of children in a group, number of children per adult, and so on. While such standards are described as insuring health and safety, they will necessarily set limits on the teacher's behavior as well. A teacher with many children to supervise in a small space cannot behave as flexibly as the teacher in a more optimal setting.

It is widely assumed that certain environments such as farms, slums, crowded housing, institutions, large and small classes have a differential effect on children, and that adults can and do work more effectively with children in some settings than in others (Murphy, 1961; Hess, 1963; Barker and Gump, 1964; Jersild, 1949). Characteristics of physical setting have received some attention as predictors of children's, though not directly of teachers', behavior (Updegraff and Herbst, 1933; Markey, 1935; Body, 1955). Findings of earlier studies concerning the effect of amount of space and presence of equipment on children's aggressive behavior (Green, 1933; Johnson, 1935a; Jersild and Markey, 1935; Murphy, 1937) imply the likelihood of variations in teacher response elicited by children's varied behavior under different physical conditions.

Some recent work concerned specifically with the physical setting for child behavior provided by the nursery (Shure, 1963) has been stimulated by the "psychological ecology" of Barker and his associates, whose studies have established that certain milieus or settings do regulate the range and nature of children's activities and value judgments (Barker and Wright, 1954; Kounin _et al_, 1957).

In the day care center children engage in many activities throughout the day. Some are routines relating to physical needs and occur in all day care centers. Others are educational and play activities which may differ among centers as to both content and format. Some centers present many structured group activities, while others keep group activities to a minimum and emphasize free play or individual choice. It is postulated that selection of an activity will determine certain aspects of a teacher's behavior during the conduct of that activity.

Physical aspects of the setting also are expected to alter teacher behavior. The number of persons in a given setting, for example, will vary. As the number of persons within a setting increases or as the amount of free space available to each person decreases, the range of behavior permitted to individuals in the setting becomes more restricted; therefore, the role of the teacher must be altered to meet these changes.

Each of these factors is visualized as placing restrictions on the behavior of participants. Some settings, as a result of the activity and its physical aspects, are highly restrictive compared with others; i.e., group story time requires that all participants remain silent and quiet, while outside play permits each participant freedom to talk and move about. These two activities are expected to elicit different responses from teachers.

In the present research our initial categories for spatial analysis were very simple. Field experience led us to feel that these dimensions were inadequate to describe the effect of the physical setting, and that a scheme of analysis should take into account certain arrangements and configurations of space which appeared to be important in determining both teachers' and children's perceptions and, consequently, their use of the setting. We have tried, therefore, to consider the structuring aspects of play areas, developing a functional analysis which will enable us to rate quality of both indoor and outdoor space. The nature of the basic space, the arrangement of equipment within the basic space, and the number of people occupying a given space help to determine activity within the setting.

The Teacher's Definition of Role

All persons who accept a teaching position must assume responsibility for guidance and control, two functions which a teaching role requires. As long as these functions are fulfilled, the teacher is free to establish her own style of leadership and conception of purpose. This individualized conception of required functions is considered to be a teacher's definition of role. Her conception of this role will determine preferences for selection of certain responses from her repertoire of alternatives.

A teacher must have some conception of what she is trying to accomplish in her daily relations with children. This conception of purpose may be deduced from her description of important aspects of her job and from her hope for the children's experiences. In an earlier study by Prescott (1964, 1965) the major purposes of teacher activity were formulated into three categories on the basis of interviews with day care teachers, as follows:

> Custodial: The teacher sees her role as keeping the children safe, happy and comfortable. Emphasis is primarily on physical aspects of care, with little consideration for educational

experience, although opportunities for initiative may occur without teacher planning.

Adult-centered: The teacher hopes to teach children ways of behavior which are valued by adults, such as educational skills or etiquette. The goals of the teacher may be narrow or broad, but they are based on a conception of desirable accomplishments, without consideration of experiences which develop autonomy and initiative.

Child-centered: The teacher clearly relates her goals to the self-initiated activities of children for the purpose of expanding and supporting their experience and contact with the world.

Teachers may also differ in the manner of leadership by which they implement their major purpose. Two components, type of authority and warmth, appeared in the same study to account for variation in leadership style.

Authority: The teacher must accept responsibility as the head of the group to control and direct it. She may consider her source of authority to be arbitrary or situational. If the source of authority is arbitrary, it is based on the preferences or demands of the teacher. Situational authority is based on the demands imposed by the purposes and context of the setting. In either case the actual rules may be similar, but differences in origin become apparent if authority is questioned. Teachers who believe in situational authority are not concerned with obedience, but only that safety and necessary order be maintained. If authority is questioned they are willing to re-examine and to explain or to demonstrate the need for their policies. Teachers who see authority as arbitrary visualize obedience in itself as important and emphasize enforcement rather than re-examination.

Warmth: This is a characteristic implying approachability and accessibility of the teacher as these qualities might be perceived by children. Warmth is operationally defined as teacher willingness to give and receive affection, such as hugging and holding children, and

> to accept dependency behavior, such as clinging or demands for help.

These individual conceptions of role differ in level of complexity. Teachers who are concerned with care and protection can set up routines to be followed with little variation. Since they have few expectations for the children, teacher-initiated actions are directed toward a few simple goals which are met with a minimum of effort. Teachers with adult-centered goals have added to the custodial goals expectations for educational experience, and consequently must initiate actions which will accomplish these ends. They must also deal with children who do not learn, or wish to learn, what the teacher wishes to impart. Child-centered goals impose the most difficult and complex role upon the teacher. She also assumes custodial and educational responsibilities, but in addition she must perceive individual desires and select behaviors which will help each child understand how he may accomplish his own purposes in acceptable ways. In addition, teachers who are warm and situation-centered are willing to consider a wider range of behavior as pertinent to their decision-making than teachers who are less approachable and more arbitrary.

A methodological as well as a substantive concern of this research has to do with the consistency between teacher attitudes and observed behavior and program. It has been common in studies of teaching practice, and even more so in studies of child rearing (see for example Sears, 1957; Davis and Havighurst, 1946), to rely on interviews with teachers or parents for information concerning their behavior in relation to children. Tests of the predictive value, for actual behavior, of interview data have not often been made. Moustakas and Berson (1956) found inconsistencies between teachers' reported philosophy and their reported behavior.

We will consider the teacher's definition of role as one predictor of her behavior in interaction with children. The teacher's actual behavior represents her performance of role. The congruence between role difinition and role performance will depend on several intervening variables: administrative setting, physical and temporal environment, interpersonal setting, and teacher competence (as determined by education and experience).

Professional Preparation

Professional preparation, here defined to include both teaching experience and education, is expected to be related both to definition and performance of role. We hypothesize that high levels of education and experience will be associated with consistency between role definition and performance, and with more complex role definitions (i.e., child-centered rather than custodial). Experience is seen as affecting decisiveness and ease of choice among alternative responses. It is also possible that it may be associated with less flexibility, unless experience is coupled with formal education which has given the teacher a broad background for choice. Professional experience and training of the teacher have been correlated with teacher behavior by Landreth et al. (1943); Nesibtt (1943); and Reichenberg-Hackett (1962). The latter author found some relationship, while concluding that the teacher's personality and attitudes were the most important determinant of the child's nursery experience. A far more extensive literature on teacher personality and characteristics related to teacher behavior exists for the elementary school level; it has been reviewed by Getzels and Jackson (1963).

Administrative Setting and Climate

Regardless of her definition of role, a teacher must integrate her performance into the ongoing operation of the center. The director as administrator is responsible for determining the policies and purposes which will govern the center. If she is part of a larger administrative unit or reports to a board of directors, many of these administrative decisions will not be hers. The sponsorship of the center (i.e., public, proprietary or non-profit) will determine her freedom to formulate purposes and policy. Center size will define the scope of administrative demands. Regardless of sponsorship or size, the director is responsible for implementing both purposes and policy within the center.

The way in which she does so will depend, as with the teacher, on her definition of role as defined by the experience which she wants for the children (purpose) and style of leadership. The director, however, must add the dimension of administration to her definition of role.

Definition of role as conceived by the teacher and director may or may not coincide. The director may, by her conception, wish to restrict or expand the role of the teacher. If their conceptions are not identical, the director may attempt to alter the teacher's role. The outcome of this role discrepancy probably will depend on the style of leadership exercised by the director.

To measure this administrative factor, we will rely on interviews with directors on dimensions of warmth, authority, and role definition (leadership style), and on an examination of organizational characteristics such as sponsorship, size, and type of service offered.

A day care center is conceived to operate as an integrated unit in which there is mutual adaptation among director, teachers, and clientele to the surroundings and to individual definitions of role. As a result of these accommodations, each center is believed to develop a prevailing atmosphere which becomes stablized and is conceived for the purposes of this study as climate.

In a previous study, four types of climate were described (Prescott, 1964). Based on attitudes expressed by directors, these were labeled as warm-nonauthoritative, warm-authoritative, cold-nonauthoritative and cold-authoritative. The factor which differentiated among them was type of leadership with its two dimensions of warmth and authority. In this study we are interested in developing a conception of climate based on behavioral data, and in examining the forces which are associated with variations.

The conceptualization of the interaction process in small groups developed by Bales (1950) and his associates is suggestive of possible ways of looking at climate by examining teacher-child interaction in the small groups of a day care center. These groups are not clearly perceived as task-oriented by all members, nor are they made up of equals. Bales's formulation has, however, been applied to various types of groups, including families, by Parsons and Bales (1955) and others. If there are general principles of small group interaction, as these writings suggest, they should have potential value for the analysis of groups in day care centers.

For example, Bales has described two "series of strains" as characteristic of any social system: one begins in the need to adapt to the outer situation, and tends to produce division of labor and differences of status; the other begins in the need for integration of the system, and emphasizes solidarity at the expense of differences (Bales, 1950, p. 157). While all social systems tend to swing back and forth between these two poles, the latter can also be regarded as end points on a continuum descriptive of the adaptation of any group at a given time.

Thus, in day care centers, a range of differences in emphasis on adaptation to the external environment at the expense of teacher-child solidarity should be expected. Dimensions regarded as emphasizing adaptation to the environment include authority, adult-centered role definition, restriction, control and restraint. When these dimensions are present, we shall look for organizational characteristics which might be fostering this type of adaptation.

Summary

In identifying predictors of teacher behavior in day care, we have set the stage for recommendations concerning effective intervention to improve day care program. Does day care need improving? Whom does it serve best? These questions will be discussed in the section on evaluation, which follows.

Evaluation

Evaluation implies the adoption of standards to be used as a reference point. Our standards for evaluating day care program are derived from our conception of healthy development during the preschool period, and our conception of the function of day care in the life of the child. The criteria which we specify for evaluation will act as a yardstick by which we shall compare the adequacy of program as it was observed to the responsibilities of program, as we conceive them, in fulfilling the needs of children.

Healthy Development During the Preschool Period

We have already presented a developmental point of view which emphasizes the growth of autonomy, initiative, and self-esteem in the young child (Erikson, 1950) as the basis which we chose for evaluating healthy development during the preschool period. As an outgrowth of this viewpoint we have emphasized the importance of the adult in establishing for the child a clear framework of acceptable social behavior based on trust and mutual esteem.

In addition we have emphasized the opportunities for learning which stem from a rich environment which is fully available to the child.

> . . . research indicates that much important learning takes place in a nonspecific way as the child explores his environment, is exposed to different types of experience, and has the opportunity to experiment at first hand with many kinds of materials. Behavior that often seems purposeless to the observer supplies the child with basic experiences from which he draws the data to solve problem situations which may arise later . . .
> (Swift, 1964, p. 263)

Child-Rearing Functions of Day Care

We are making the assumption that full day care, which affects children during most of their waking week-day hours, should serve two functions:

1) to substitute for the home in providing appropriate developmental experiences, and

2) to compensate for possible deficiencies in the home environment by enriching children's experiences in desirable areas.

Day Care as a Home Substitute

A good home provides a setting in which love and respect among individuals of different sexes and different ages can be dependably experienced by the child, and in which care for his physical needs is accompanied by care for him. In regard to physical care, the rituals children in families develop around eating and sleeping are probably of particular significance to the young child in demonstrating that he is an important person, one whose idiosyncratic needs are worthy of adult time and attention.

A good home also provides age-appropriate learning experiences by giving the child an environment characterized by variety and opportunity for sensory experience, which can be explored by the child in his own time and in his own way. In substituting for the home, a good day care program will make every effort to provide considerate attention to the particular needs of the individual, offering him sufficient opportunities for personal attention and personal choices to balance the demands for his conformity to group behavior patterns.

Day Care as Compensatory for Home Deficiencies

The social or individual characteristics of some homes may render them partially deficient as child-rearing environments, either from the standpoint of preparation for useful roles in the wider society or in terms of healthy personality development. Current programs designed to provide compensatory education for preschool children from poverty-level families have grown out of recognition that many families are unable to provide children with a foundation for achievement in school. Nursery schools for middle-class children also derive part of their support from parental conviction that the group environment is superior to the home in offering opportunities for some types of learning.

As we conceive it, homes can be deficient in terms either of 1) quality or range of experience in personal relationships, or of 2) physical environment adequate to support the child's needs.

Some children in day care may be deprived of warm, unhurried, and stable relationships with their parents. Many children in day care do not have fathers in the home. Day care also appears to be selective according to ordinal position in the family. An earlier study (Prescott, 1964) found that 47 percent of the children enrolled in sample centers were only children, and an additional 40 percent were the youngest in their families. These children may have relatively limited opportunity at home for social experiences with peers.

For many reasons parents may be unable to offer an optimal physical environment. Some lack the education or experience to select experiences which are valuable to children. Others lack the resources to do so, either because of poverty or because of the housing patterns which urban living requires.

If day care is to compensate for deficiencies in the home, it should provide personal relationships which are both varied and supportive and an environment appropriate to young children's needs.

Criteria for Evaluation of Day Care Program

On the basis of our assumptions concerning healthy development and the functions of day care, we will evaluate programs in terms of criteria derived from 1) observations of teacher behavior, 2) observation of physical space, 3) observation of children's responses, and 4) information about differences among children enrolled in day care, and among the types of programs in which they are enrolled.

Teacher Behavior

In good programs:

1. The teacher's behavior is balanced among encouragement, guidance, restriction and neutral actions. Encouragement, however, will characterize a high proportion of her interactions with children.

2. The teacher's manner toward children is friendly and sensitive.

3. The teacher places relatively high emphasis on children's development of verbal skills.

4. A relatively high number of lessons is taught by the teacher.

Physical Environment

In good programs the physical environment offered to children is rich and varied, in age-appropriate terms, and is characterized by inherent rather than teacher-imposed limits on activities.

Children's Response

We have introduced the variable, Children's Response, for the specific purpose of providing an evaluative criterion. Observation of the extent to which children are involved and interested or bored, restless and lethargic should provide a valid measure of the quality of day care based on the reactions of the actual recipients of teacher behavior. It seems reasonable to assume that those teacher behaviors and program arrangements which elicit a strong positive response from children will tend to be most conducive to children's healthy development, when viewed in the context provided by other criteria.

Differences among Children and Programs

We assume that children's needs differ, and that a program rated good by our other criteria will not necessarily be good for all children. Consequently, we will consider the possible effect of placement on children with various characteristics (i.e., age, socioeconomic status, ordinal position in family, presence of father, certain personality traits) into the types of programs which will be delineated. Also to be considered is whether or not an existing program actually is available to a child whose needs it might fit.

Summary

Our evaluation is designed to answer these questions: In good day care programs, what do teachers do? What experiences does the environment offer? Do children respond to the program? Which programs are appropriate for which children? Our goal in evaluating program is to recommend types of intervention which have potential for improving day care centers as an environment for children's growth. We are testing the hypothesis that the interactions which we have observed among teachers and children are not chance occurrences, but are closely tied to the varied aspects of the social and physical setting in which they take place. Where relationships among variables are predictable, intervention which effects change in any one variable in an interrelated pattern should result in eventual change in other variables as well.

CHAPTER III

THE STUDY DESIGN

The Population Studied

The intent of this study is to provide information useful to persons throughout the country even though the sampling was limited to centers in Los Angeles County. Consequently, it seems important to distinguish those features of day care centers in Los Angeles which resemble the national pattern from others which appear unique to this area.

When this study began there were 380 licensed day care centers in Los Angeles County which offered full day care for nursery age children. This figure represents 8.6 percent of the nation's total facilities. Centers found in Los Angeles County are similar to those found nation-wide with respect to size of center, the provision in many centers for inclusion of both preschool and school-age children, and the proportion of programs which offer dual services, providing both part-day and full day care to meet the needs of working mothers (Low, 1962).

In Los Angeles County, as in the rest of the country, the majority of day care services (66.3%) are offered under proprietary auspices. Los Angeles County does differ from other geographical areas in its paucity of non-profit centers (11.0%). Of these only 28.6 percent are sponsored by agencies other than churches. Suburban churches sometimes offer day care not only to meet community needs in areas where strict zoning limits the availability of commercial centers, but also to increase their operating budget through optimal utilization of facilities on week days. These church centers most commonly do not subsidize care and expect their day care program to be self-supporting. Day care for low-income families is provided primarily by Children's Centers which, rather than being sponsored by community welfare agencies, are administered by local boards of education which receive financial assistance from the state.

Selecting the Sample

Our purpose was to obtain a representative sample of day care centers. We decided to use a simple random sample because it would enable us to generalize not only about the range of programs available, but also about their frequency of occurrence. Using a table of random numbers, a sample of 100 centers was drawn from a listing of the 380 centers which at that time offered full day care in Los Angeles County. Our intention was to obtain a minimum of 45 centers from this list. Centers were contacted systematically beginning with number one. Seven centers were eliminated because they exceeded our arbitrary limit of 40 miles or one hour's driving time. Eleven had closed or no longer offered full day care. Of the remaining centers, nine were contacted in which we were unable to arrange for observations. Of these, three refused to participate, and six gave reasons for postponing any commitment for participation. These six were subsequently contacted a minimum of three times following their initial refusal.

The final sample consisted of fifty centers. Of these thirty were proprietary (commercial), five were non-profit, and fifteen were public (board of education Children's Centers). After the sample of fifty was completed another five centers were selected for special sampling. Data from these centers are included only where noted.

Gaining Access to the Centers

A letter of introduction was mailed to each director whose center had been selected in the random sampling. This letter contained a brief explanation of our objectives and asked permission for an interview so that we might discuss our project in greater detail (see Appendix A1). After the letter had been received, the project Secretary telephoned the director of the center and arranged an appointment for the project Director or Associate to visit the center.

The initial interview began with a full explanation of our purpose. Our explanation went something like this:

> We have received a three-year research grant from the Children's Bureau, Department of Health, Education, and Welfare, Washington, D. C. The Children's Bureau, in recent years, has been concerned with the tremendous increase in working mothers, especially those with young children. They are wondering about the types of care which will be available throughout the United States if more mothers continue to work. They are particularly interested in group care, because of its dependability, and they want to know more about it. Since the Los Angeles areas has large numbers of

> working mothers and many day care centers under all types of sponsorship it is an ideal community for this study. We have been given the job of answering their questions about what programs are now available, in a large metropolitan area, to working mothers who wish to place their children in care. From the nearly 400 centers in Los Angeles which offer full day care, the name of your center was drawn in a random sample; that is how we happened to contact you.
>
> This is what we would like to do. We would like to visit your center twice during your regular morning program. Then we would like to come once again in the early morning and once in the late afternoon so that we might get an idea of how the entire day fits together.

If the director agreed we proceeded to interview her using the Interview Schedule in Appendix A2. During this initial interview we obtained basic data on the school, its size, type of clientele, program emphasis, attitudes and educational background of the director. At the end of the interview we set up a schedule of visits and explained our procedures in greater detail. This interview was followed by a letter of confirmation which included the names of the observers. Letters to the teachers explaining our procedures in the groups were also enclosed (see Appendix A3).

Procedures in the Center

Each center was scheduled for four visits by our team of observers: two visits during the morning, usually from 9:00 A.M. to 11:30 or 12:00 noon; one during the early morning, from approximately 7:00 to 9:00 A.M.; and one during the late afternoon from about 3:30 to 5:30 P.M. The exact timing varied slightly depending on the center's schedule. The number of observers scheduled for each center was determined by its size and grouping practices. A small center with only one group of children would be scheduled for nine hours of observations with only one observer present at any given time, while at a larger center with three or more age groups approximately nineteen hours of observation would be completed by several observers during the four scheduled visits.

During the pilot phase we experimented with a more extensive visiting schedule. Additional hours of observation did not appear to add significantly to the quality of information collected. The schedule which was finally adopted also appeared to be the maximum in visitation which would be acceptable to personnel in many of the centers.

During our visits we tried to remain as unobtrusive as possible. The observer recorded two 20-minute observations each hour and then rotated to another group. Each observer entered and left the groups quietly and usually sat at a slight distance from the group. To avoid participation the observer maintained silence and did not invite conversation from the children. When approached by a child, the observer kept her responses to a minimum to prevent disruption of the program and the observation. Observers were systematically rotated throughout the study so that each teacher was observed by two or more observers. No more than three observers were present in a center at any one time.

Teachers were not interviewed until the bulk of the observations were completed. (For Interview Schedule, see Appendix A4.) Since the removal of a teacher from the group presented staffing problems in many centers, our interviews were short (approximately 10 minutes) and scheduled according to the wishes (and ingenuity) of the director. At the time of the interview, teachers were reminded that information was available only to project staff and was to be used only for the purposes of the study.

The observational data were collected by three observers who remained throughout the entire project. In addition, the project Director and Associate (who was later replaced as observer by a project coordinator) also participated extensively in collecting the observational data, making a total of six observers in all. Reliability of the observational method is presented in detail later in this chapter.

The center directors were interviewed only by the project Director and Associate. The coding for each interview was checked by both and any differences reconciled. Each teacher for whom a minimum of ten observations was obtained was interviewed by one of our staff members. The interviewer's coding was always checked by another member of the project staff.

All staff members were college graduates who had, at one time, placed their own children in nursery or day care programs. Their similarity in educational level was balanced by markedly varied life experiences and a cross-section of ethnic and religious backgrounds. They were trained during a pilot phase and participated in the testing and development of protocols and procedures. Throughout the study each staff member was encouraged to contribute reactions and observations in addition to those included in the formal observational format.

Methods of Gathering Data

A twenty-minute observation of teacher behavior was the basic instrument of data collection. The number of observations scheduled for each center varied according to its size and grouping practices. Our plan was to obtain ten 20-minute observations of each teacher who was in charge of a group. In actual practice, this goal was not always achieved because of the wide variety of staffing practices which we encountered. Those teachers for whom ten observations were obtained are called "sample teachers." All other teachers observed, including personnel such as directors or cooks temporarily serving in a teaching capacity, are called "miscellaneous teachers."

Categories of Teacher Behavior

Observers divided the flow of teacher behavior into units, using procedures originally developed by Barker and Wright (1954). For this purpose a definition of units developed at the Merrill-Palmer Institute by Dorothy Haupt for nursery school observation was used. A unit of teacher activity is "an act on the part of the teacher which involves discernible contact with an object or person. Any change in the direction of the activity or behavior terminates a particular unit" (Haupt, per. comm., 1963). For example:

Teacher sets up easel	1 unit
Teacher asks John if he wishes to paint, John nods affirmatively	1 unit
Teacher tells him to get an apron	1 unit

Observers recorded units of teacher behavior on a tally sheet which enabled them to code while observing. This method of recording produced an average of 85 units of teacher behavior in a 20-minute period. Our schedule was designed to obtain information about (1) the teacher's behavior as communicative or non-communicative, and if communicative, whether directed toward individuals or groups of children, (2) the apparent purpose of the teacher's behavior (e.g., encouragement, guidance, restriction), and (3) the amount of teacher behavior judged to encourage verbal skills in children.

The following coding categories were used for these purposes.

(Nc) Non-communicative: All teacher behavior which does not involve any interchange between the teacher and children.

(Nc$_1$) Child-centered: Teacher prepares materials for children, such as arranges chairs, straightens play area, etc. Removed from children, but related to children.

Criteria: Teacher is not in contact with children. Activities must be related to what children have done or will do.

Example: Teacher gets out craft materials, cots. Teacher mixes paint. Teacher pours juice at counter while children sit at table.

(Nc_2) Neutral: Behavior which occurs without reference to children, or equipment or materials being prepared on their behalf.

Criteria: Teacher is not in contact with children and the activity does not relate to children's activities.

Example: Teacher combs hair. Teacher prepares coffee for other teachers. Teacher works on her record books. Teacher walks across room (purpose not stated).

(Nc_3) Silent Supervision: Surveying or watching the group or individual children. No communication.

Criteria: Teacher is watching children but is not in contact with them.

(Ca) Conversation: Communication with persons other than the children.

Criteria: Any teacher contact with other teachers or individuals not enrolled in school regardless of age.

Example: Teacher talks with children through fence in elementary school yard. Teacher speaks with cook. Teacher speaks to older child picking up younger sibling.

(C) Communicative: Teacher behavior which involves an interchange between persons. It may be verbal or non-verbal. Social interaction is the criterion for non-verbal activity. This contact may be directed toward:

(C_1) Individual child: Behavior directed toward one child only.

(C_2) Subgroup: Behavior directed toward a portion of the entire group (i.e., two or more children).

(C_3) Group: Behavior directed toward entire group for which teacher is responsible.

(E) Encouragement: All units of activity which give help, support, approval, pleasure, confidence, and knowledge.

(E_1) Supporting/extending: Teacher activity clearly relates to the self-initiated activities of the child for the purpose of supporting the extension of his activity or for expanding the content dimension of his play. Such teacher activity will be characterized by acts which involve the active participation of the teacher as contributor to the child's activity--as opposed to teacher activity which diverts children's activities.

Criteria: Teacher must adapt her behavior to child's activities. She must give of her time, energy, initiative, imagination.

Example: Child wishes to make bow and arrow and teacher discusses supplies which will be needed and helps him find them. Teacher listens attentively to child's story. Teacher expands on child's question and shows its relevance to other information.

(E_2) Responsive: Teacher activity clearly relates to self-initiated activity of child, but is of brief or undemanding nature, as compared to E_1.

Criteria: Teacher must show by her response that she is aware of the child's activity as well as of the child.

Example: Teacher pushes child on swing. Teacher suggests to child painting that he might like to use the new red paint. Boy is making a pie and teacher asks "what kind?"

(E_3) Routine: Teacher gives a friendly or neutral response to child's approach. Teacher response is routine or stereotyped, as opposed to responsive category where teacher is brief but clearly related to child's self-initiated activity.

Criteria: Teacher responds to child in an appropriate, but routine or stereotyped manner. If teacher responds with refusal or rejection, code simple restriction or belittling/disparaging restriction.

Example: Teacher says, "Yes, I see you." Teacher says, "Yes, your socks are blue." Teacher smiles and nods in response to child's comment. Child asks "May I do (something)" and teacher says, "Yes."

(E_4) Approval/nurturance: Teacher activity which gives the child praise, confidence, encouragement, pleasure or affection, comfort or help if nurturance is obvious.

Criteria: Teacher must show recognition of child's accomplishments, or help child to handle discomfort, pain, or hurt feelings.

Example: "That is a lovely painting." Child shows new shoes to teacher, who exclaims over them. Teacher permits a child to crawl into her lap and hugs her. After disciplining a child, teacher hugs him and encourages him to join the group.

(T) Teacher Direction: The teacher initiates, but does not anticipate that the child necessarily will accept her goals. Teacher sets goals without specific evidence that child is interested.

(T_1) Teacher Suggestion: Teacher initiates an activity which extends the child's world. This may be play or educational activities as in supporting/extending encouragement. The emphasis here is on the teacher's initiation of "extending" activities. Children have not shown interest but there is no demand for compliance or only by suggestion. When the teacher focuses her attention on getting compliance, the coding probably will become "direct" or "indirect guidance." If factual information is conveyed, code also "informational" under verbal skills.

Criteria: Teacher initiates the activity. It must be for the purpose of educating, entertaining, or occupying the children. Children have not determined the choice. They may or may not be pleased at its introduction.

Example: "Today we are going to paint." "Here is a new book about Indians." "Let me show you how a magnifying glass works." "Does anyone know what dye is?" "Who wants to tell a story?" (Extends invitation.) "Would you like to paint?" (Extends invitation.) Teacher shows child how to tie a bow, explains meaning of words, reads, initiates play with dough, etc.

(T_2) Teacher Approval: Teacher gives praise or approval of child behavior which approximates adult standards, or gives approval for required work.

Criteria: Praise must be for behavior which meets teacher standards or for completion of required work. Child may or may not solicit praise.

Example: "You are a good eater." "That's fine, John, now color the goats." "Mary has finished her work--that's fine, Mary."

(G) Guidance: Guidance is assumed to have both facilitative and restrictive properties. It may guide, control, train and/or direct the children (child). Included here are routine mechanics of management, handled without evidence of conflict.

(G_1) Direct: The teacher tells the child(ren) what is to be done or she requests specific behavior. There is no emotional content to this type of guidance, but it is clear that authority is vested in the teacher. It includes reminders with no evidence of conflict. If the teacher explains to the child or gives him a reason, this unit of activity should also be coded as "interpretive" development of verbal skills.

Criteria: Teacher phrases her request as an imperative sentence. She may be friendly or neutral; if she is definitely irritable, code "restriction."

Example: "John, put the blocks over there." If the teacher adds, "So we will have the table clear for juice," then code "direct guidance" and "interpretative" under verbal skills. Teacher calls children by name to come. "Jackie, David." "Sit down, please." "John may go to the table."

(G_2) Indirect: This category includes suggestive requests or statements of fact which indicate to children what is expected, such as "Have you washed your hands?" or "Time for juice." The implication of directive guidance is present but not stated. Again, there is no emotional overtone. Reminding is included here. Teacher gives reason for what to do next--to guide child's behavior.

Criteria: Teacher expects compliance but does not use the imperative form. If wording is informational, but teacher obviously expects compliance, code here. Child is supposed to know how to comply.

Example: "Let's go." "Time for juice." "Would you like to put your picture over there?"

(G_3) Manipulative: Teacher uses subtle influence which obscures real reasons for the request or makes it difficult for child to distinguish his wishes from those of the teacher. Teacher forcefully labels or defines behavior or experience in terms of her standards.

Criteria: Teacher is making a request or statement and expects compliance as in direct or indirect guidance; however, teacher uses child's relationships with people as a motivator for compliance.

Example: "Nice people don't do that." "Everyone is going to have a fun time." (cajoling) "John, do it for Mrs. Brown." To one child: "We don't want to do that, do we?" "You're such a good boy, you wouldn't want to do that." "I'm going to watch and see who sits up the nicest."

(G_4) *Distraction/redirection*: Teacher attempts to stop an activity which she considers undesirable by diverting child's attention or substituting or suggesting another activity with no explanation to child. The emphasis here is on substituted activity.

Criteria: Teacher's action must appear from context to be initiated for purpose of stopping ongoing activity of child or children. Teacher does not call child's attention to misbehavior.

Example: (Child is bumping into another child while playing.) "Bring your truck over here." Child is acting up at story time--"What story would you like?"

(R) *Restriction*: Teacher behavior which deals with conflict between child's wishes and those of teacher. Conflict exists where child does not accept teacher's goals and teacher moves to obstruct child's activities.

(R_1) *Simple*: Teacher calls attention to fact that child is not accepting teacher's goals or standards. Teacher warns or reminds (if no evidence of conflict, code as "guidance"). Teacher calls child to attention, refuses with no explanation, postpones abruptly. If teacher moves to enforce her goals, it becomes "firm enforcement of limits."

Criteria: Teacher goal and child behavior must be in conflict. This is indicated by child's attitude or by irritation of teacher.

Example: Children are restless and inattentive; Teacher: "We're not paying attention today." Teacher looks sternly at children in line, says: "We'll wait until you're quiet."

(R_2) *Firm Enforcement of Limits*: Teacher makes it very clear to the child that there are limits which must be respected and that she will impress these limits on the child. This may be done by benching, lecture or other means. The determining factor is firmness and *absence of intent to hurt*.

Criteria: Teacher may show exasperation and angry concern, but she must convey firmness and absence of intent to hurt.

Example: "John, those blocks must be picked up." "Bill, you will have to sit down until you are ready to take turns." "John, you cannot play in the sand any more, go and sit down."

(R_3) Belittling/disparaging: Conflict situation in which teacher activity is designed to lower the child in esteem, to discredit his activity or behavior. Also includes scolding and physical punishment, such as grabbing the child by the shoulder or tapping (slapping) him on the hands, and deliberate ignoring of child by teacher. Teacher shows no acceptance of child's viewpoint. There must be an indication of desire to punish or hurt.

Example: "Can't you do anything right?" "I don't want to listen to anything you have to say, young man." "You're fooling around and trying to attract everyone's attention. Pay attention to yourself." Child says: "Goodbye, teacher"; teacher says: "I don't appreciate your calling me teacher. You know my name."

(N) Neutral Activities: Teacher behavior which has no intent to encourage, manage, or restrict.

(N_1) Information Exchange: Exchange of conversation or information without any attempt to influence and characterized by equality. Also any kind of communicative behavior which had no reference to child or children or where the teacher is the reference point. Example: Teacher asks for information about the equipment, or teacher says: "I need to blow my nose." Teacher expresses opinion without any attempt to influence.

Criteria: Initiation may be by teacher or children. The determining factor is absence of intent either to teach, guide or restrict.

Example: Teacher says: "Do you want any more meat?" "Has anyone watered the flowers?" "I'll send your picture home tonight."

(N_2) Care of Physical Needs.

Criteria: Teacher may or may not speak with the child. If she gives attention and affection along with care of physical needs code instead as "Encouragement, Approval/nurturance."

Example: Teacher ties shoes, passes out food. Teacher and children walk from one room to another.

(S) Development of Verbal Skills (if present, coded in addition to above categories): Teacher activity which develops the child's ability to listen, express himself, or understand by means of verbal communication.

(S_1) Repetitive: Adult introduces verbal patterns or conventions which children repeat. Children may or may not participate.

Example: Teacher and children sing together. Children say grace. Children count. Children recite Pledge of Allegiance. Teacher insists on Please and Thank you.

(S_2) Expressive: Teacher behaves in a way (i.e., asks a question) which enables the child to express his own ideas--yes or no will not answer the question.

Example: "What could you do to make it work?" "Which is bigger?" "Then what did you do?" "Tell me about it." "What kind of pie are you making?"

(S_3) Interpretive: Teacher puts feelings, reasons, ideas or problems into words. The emphasis here is on explanation of interpersonal relations as opposed to factual informatin. Information is appropriate and transferable to other situations.

Example: "John is trying to tell you he doesn't like that." "Put on an apron so that you don't get paint on your dress."

(S_4) Informational: Teacher explains the meanings of words, gives factual information, introduces concepts, calls attention to form and organization.

Example: "Dye makes things have color, like your clothes." Teacher calls attention to order or pattern: "Peas and potatoes are both vegetables."

(X) Not Ascertainable: All behavior which is uncodable or cannot be decided. Behavior which appears to have no reference point.

(Tx) Teacher-initiated: Behavior which is incomprehensible because it is unheard or context is unknown. If uncertain who initiated it, code here.

(Ex) Child-initiated: Teacher responds to child-initiated contact, but nature of response is uncodable either because it is unheard or context is unknown.

The following example shows how the coding was used to record, simultaneously, the direction and purpose of the teacher's behavior, along with inclusion of verbal skills, if present.

John: "Teacher, see my pie?"

Teacher: "That looks delicious. What kind of pie are you making?"

The teacher's response would be coded as $C_1E_2S_2$. The C_1 means that she directed her answer to an individual child; the E_2 that it was classified as responsive encouragement. The S_2 is recorded because her question about the kind of pie required an answer from the child. If she had said, instead of the question, that the pie looked like her favorite kind, the episode would have been coded only as C_1E_2.

Global Ratings

Global ratings, which represented a summary of the 20-minute observation period, were utilized to describe educational content and certain characteristics of teacher style and children's responses. Observers were instructed to rate according to their perception of the entire period. This rating was intended to be independent of tallies of teacher behavior. We cannot establish the degree to which it was, in fact, completely independent. However, we do know that observers perceived it as independent and welcomed the opportunity to record their impression of the total effect. Four characteristics were rated on continua as follows:

Tempo (Pace of program)

1. Lethargic, non-stimulating
2. Slow, relaxed, easy-going
3. Average
4. Stimulating
5. Rushed, hurried

Teacher Verbalization

1. Very little, non-verbal
2. Less than average
3. Average
4. Talkative
5. Extremely talkative

Teacher Manner

1. Exceptionally sensitive, responsive, responses relevant
2. Friendly, pleasant, warm
3. Neutral, neither of the above
4. Irritable, sharp

Children's Responses

1. Children are disinterested, bored, hyperactive, restless, lethargic
2. Children are somewhat disinterested
3. Children generally are involved, moderately interested
4. Children are involved and interested
5. Children are exceptionally involved and genuinely interested

Lessons Taught

The content of the teacher's activity has been labeled "Lessons Taught." This rating is based on the observer's perception of the teacher's educational emphasis during the 20-minute observational period. Observers were instructed to judge lessons taught according to what the teacher did during the observational period. Even though a teacher's choice of activity or materials might encourage certain lessons, these are not counted unless the teacher actively and effectively introduced them. Clarity, interest, and effectiveness of both positive and negative reinforcement are the basis for these judgments.

The observer was permitted to identify three lessons taught during the observational period, using a rank of #1, #2, #3, or to use only a #1 rank. If #2 or #3 were used without #1, the #1 slot was checked "no lesson" or "can't decide."

Rank 1. Observer feels strongly that the "lesson" checked was the major emphasis of the teacher during the period of observation.

Rank 2. Teacher emphasis was present but secondary to #1, or was present but with less emphasis than #1.

Rank 3. Teacher emphasis was present, but to a lesser extent than #1 and #2.

The fifteen choices were grouped under the following headings:

Physical Skills

1. Large Muscle Activity: Teacher actively encourages and praises climbing, trike riding, jumping, or other similar skills.
2. Eye-Hand Coordination: Teacher actively encourages and praises skills whose successful performance requires eye-hand coordination--i.e., ball-playing, cutting with scissors, coloring within lines, etc.
3. Verbal-Physical Coordination: Teacher encourages and rewards activities which can only be performed by following auditory and/or visual cues such as following songs or games with directions, Simon-Says, etc.

Social Skills

4. Rules of Social Living: Teacher introduces and encourages manners, etiquette, and rules of conduct.
5. Dealing with Other Children: Teacher instructs and encourages children to solve their problems; does not settle differences by arbitrary action of her own.
6. Consideration of Rights and Feelings: Teacher provides a model for consideration and insists that each person's rights and feelings be respected. By her actions she may also teach rules for social living, but the emphasis here is on content and meaning, not on form or ritual.

Intellectual Attainment

7. Formal Skills: Teacher actively encourages and calls attention to pattern and order of intellectual experience; encourages children to test memory and practice recall, encourages counting, labeling, precise observation, etc.

8. Knowledge and Awareness of World: Teacher encourages and calls attention to facts and information about plants, animals, customs, communication, etc.

9. Sense of Pleasure, Awe, Wonder: Teacher provides experiences which are specifically directed toward genuine feelings of pleasure, or which fill children with wonder, astonishment, and awe--such as breaking soap bubbles or holding guinea pigs.

Self-Responsibility

10. Self-sufficiency and Independence: Teacher encourages and shows respect for children managing their own affairs, performing tasks which are often done by adults--such as taking initiative for clean-up, lacing their own shoes, etc.

11. Creativity and Experimentation: Teacher encourages and praises child's own efforts to create something new and different, and to experiment, even though the product may not be praiseworthy by adult standards.

12. Control and Restraint: Teacher encourages and insists that children inhibit their impulses and follow the teacher's request --such as getting completely quiet, obeying teacher request regardless of personal preference.

13. Dealing with Strong Emotions: Teacher helps children identify strong emotions and feel comfortable and competent with them.

Other

14. Can't Decide: Observer feels something was taught but cannot make a choice.

15. No Lesson Taught

Other Variables

In addition to the behavioral variables which have been described, information also was collected for four other major variables. Structural variables were identified by observers while they were in the centers; other characteristics of the center and of its personnel were obtained through director and teacher interviews. Data were grouped as follows:

Structural Variables

Number of persons in the setting
Type of activity
Time of day
Type of physical space

Attitudinal Variables

Definition of role
Type of leadership

Staff Characteristics

Education
Experience
Age
Ethnicity

Organizational Characteristics

Type of children (age, socioeconomic status)
Size of center
Administrative framework

For the convenience of the reader, the measurement of these variables will be discussed when they are introduced into the results.

Reliability

The problem of reliability in this study was twofold: it concerned both the amount of agreement among the observers and the adequacy of the sampling of teacher behavior and center program. During the pilot phase we experimented with a variety of procedures and ultimately selected those which offered maximum reliability in combination with sufficient flexibility to meet the idiosyncrasies of individual centers.

Throughout the study we had only limited control over decisions on sampling because of the necessity to present and follow a clear-cut visiting schedule which would be acceptable to all types of personnel in a wide variety of settings. We had much more control over our observers, who were carefully trained during the pilot phase and were rotated systematically during all observations throughout the study.

Observer Agreement on Teacher Behavior

Our original design called for observers who would write verbatim reports of teacher activity to be coded by project staff. This separation of the observational and coding functions did not prove to be as feasible as anticipated. Although coders who were not present during an observation could achieve acceptable reliability, their reliability was not as high as that of the observers who had actually seen the teacher in action. Apparently, perception of teacher activity also depends on additional material which does not appear in the verbatim report. In addition, the amount of clerical work necessary to process the interviews was considerable and also introduced additional opportunities for error.

A method of simultaneous coding and recording was substituted for the cumbersome procedure of recording, transcribing and then coding. The change to the new method of recording resulted in an increase in the amount of information which observers could record, but it did not alter percentages within categories nor reliability as measured by paired observations.

When observers recorded in long-hand, the mean number of episodes during a 20-minute observation was 51. During the transition this figure increased to 61. As the staff became more skilled it increased to 85 and remained at approximately this figure. The use of long-hand recording had made it physically impossible to record every detail; consequently, it was necessary to summarize the sequences involved in a transaction such as "getting a ball from the cupboard at a child's request." With precoded tallies it is possible to record child and teacher talking as they walk to the cupboard, teacher selecting ball at child's request, and teacher and child returning to play area.

The increase in total number of episodes was examined to determine whether the over-all percentages in each category had remained constant, indicating that more detail of each transaction was being recorded, or whether the increase occurred only in specific categories. A comparison of 30 paired observations, 10 from each phase of the study, indicated that the percentage distribution had remained essentially the same regardless of the method of recording. The only category which appeared to show a small increase after the change was the category of direct guidance.

We analyzed our data by observers and found that one observer appeared to be recording consistently more episodes than our other observers. Closer examination led us to believe that each observer has a top speed beyond which she cannot record. This observer had a majority of observations well within the normal range, but she was capable of recording up to 220 episodes in an observation period and thus had a group of observations which exceeded, in number of episodes, those of the other observers. An observational scheme which specified recording in time intervals such as that used by Bishop (1951) avoids this problem. However, since our observers were rotated faithfully, differences in episoding may produce random error, but should not distort the results in any systematic manner.

Since the reliability of data collection was a major concern throughout the study, we endeavored to maintain a regular schedule of paired observations among observers by scheduling one paired observation in each center. This procedure was difficult to follow because of the necessity to adapt to a most unpredictable variety of settings. Despite difficulties, 44 paired observations were obtained in the 50 centers included in this study. These are in addition to the 43 completed during earlier phases of the project.

Throughout the study observers were concerned about their choice of cut-points for an episode of interaction. The cut-point (when a teacher changes the direction of her attention or action) which marks the termination of one episode and the beginning of a new one is not absolute. In actual practice this definition requires a certain amount of judgment and is subject to the observer's ability to follow the speed of the program. In the 44 paired observations the discrepancy between observers on the total number of episodes which were recorded per observation averaged 11.1 out of a mean total of 84.2. This figure was reduced to 8.7 per observation for the number of communicative episodes.

The differences between the means for total episodes and for communicative episodes for the paired observations were analyzed. Both these differences were found to be nonsignificant (t = 1.16 for total episodes, t = 0.82 for communicative episodes).

The degree of reliability between paired observations for the categories of teacher behavior was computed in two ways. The first method provided information on the amount of disagreement when observations were compared according to percentage of behavior in each category. According to this method, the frequency of teacher behavior in each category was divided by the frequency of communicative episodes, giving a percentage. The amount of disagreement between paired observers was computed by obtaining the difference between the percentages for observer A and observer B in each category for every paired observation. To determine the average amount of disagreement, means for each category were computed for the total of the 44 paired observations. (See Table 1.)

We also wanted an estimate which would give an indication of the amount of agreement based on tallies rather than percentages, and balanced for the difference in the frequency with which certain behaviors occur, since much of our data is reported as frequencies. Also reliability varies with the amount of use which a category receives, and we wished to estimate the accuracy of sub-categories which seldom received high tallies. For this purpose Wright's Estimate of Accuracy was used (Wright, 1967). (See Table 2.)

TABLE 1

MEAN PERCENTAGE OF DISAGREEMENT BETWEEN OBSERVERS IN 44 PAIRED OBSERVATIONS

CATEGORY	% OF DISAGREEMENT	CATEGORY	% OF DISAGREEMENT
Non-Communicative		Restriction	
Child-centered	3.0	Simple	3.0
Neutral	1.0	Firm enforcement	0.4
Supervision	3.2	Belittling/disparaging	0.1
Communication w/adult	1.3		
		Neutral	
Encouragement		Information exchange	4.8
Supporting/extending	0.4	Care of physical needs	2.4
Responsive	4.9		
Routine	4.9	Not Ascertainable	
Approval/nurturance	2.2	Unheard, teacher-initiated	2.3
Teacher Direction		Unheard, child-initiated	1.3
Teacher suggestion	3.6		
Teacher approval	0.4	Verbal Skills	
		Repetitive	0.8
Guidance		Expressive	1.9
Direct	5.7	Interpretive	3.4
Indirect	3.7	Informational	1.9
Manipulative	0.7		
Distraction/redirection	0.5		

$$\text{Wright's Estimate of Accuracy} = \frac{\text{Episodes marked by Observer A marked also by Observer B}}{\dfrac{\text{Episodes marked by Observer A + those marked by Observer B}}{2}}$$

TABLE 2

RELIABILITY BETWEEN OBSERVERS IN 44 PAIRED OBSERVATIONS USING WRIGHT'S ESTIMATE OF ACCURACY

CATEGORY	BEHAVIOR		
	Directed to Individual	Directed to Subgroup	Directed to Group
Non-Communicative			
Child-centered	77.31	---	---
Neutral	73.60	---	---
Supervision	79.41	---	---
Communication with adult	90.06	---	---
Total	86.71	---	---
Encouragement			
Supporting/extending	66.67	0.0	0.0
Responsive	80.47	49.41	0.0
Routine	70.11	20.00	33.34
Approval/nurturance	77.42	25.00	0.0
Total	87.70	52.73	47.62
Teacher Direction			
Teacher suggestion	76.61	44.78	88.43
Teacher approval	66.67	0.0	66.67
Total	77.40	43.48	88.16
Guidance			
Direct	86.01	58.02	82.54
Indirect	68.57	30.44	57.63
Manipulative	55.17	0.0	61.54
Distraction/redirection	55.17	0.0	100.00
Total	89.17	66.67	72.59
Restriction			
Simple	77.38	61.54	80.00
Firm enforcement	75.00	75.00	0.0
Belittling/disparaging	50.00	0.0	100.00
Total	77.42	62.86	66.67
Neutral			
Information exchange	80.14	42.31	37.04
Care of physical needs	81.97	66.67	33.33
Total	88.19	60.27	46.67

TABLE 2 (CONT.)

CATEGORY	BEHAVIOR Directed to Individual	Directed to Subgroup	Directed to Group
Not Ascertainable			
Unheard, teacher-initiated	65.30	58.82	0.0
Unheard, child-initiated	40.68	0.0	100.00
Total	70.74	61.82	0.0
Verbal Skills			
Repetitive	45.83	0.0	78.72
Expressive	55.56	0.0	59.38
Interpretive	71.32	20.00	60.87
Informational	54.08	25.00	42.86
Total	74.16	10.26	77.00

We feel that the reliability is adequate except for those categories where frequencies are very low (for example, verbal skills directed to subgroups). In analyzing the data we will seldom use any category where the estimate of accuracy falls below 70. Data on teacher behavior will be analyzed according to total counts in categories. Data in which centers are compared will be analyzed according to percentages within categories based on the total number of episodes observed in each center.

Global Ratings

At the end of each observation observers rated the teacher on amount of verbalization, tempo, and children's responses along a five-point continuum from low to high. Teacher manner was given a four-point rating. The reliability of these ratings was computed according to the distance between the ratings of paired observers. Thus for the five-point continuum, no agreement would be a four-point difference. Table 3 shows the extent of agreement on the global ratings.

TABLE 3

PERCENTAGE OF AGREEMENT BETWEEN OBSERVERS FOR GLOBAL RATINGS IN 44 PAIRED OBSERVATIONS

CATEGORY (N=44 paired observations)	GLOBAL RATINGS Teacher Verbalization	Teacher Manner	Tempo	Children's Response
Complete Agreement	59.1%	86.4%	63.6%	61.4%
One-Point Disagreement	38.6	9.1	31.8	36.4
Two-Point Disagreement	2.3	4.5	4.5	0.0
Three-Point Disagreement	0.0	0.0	0.0	2.3
Four-Point Disagreement	0.0	0.0	0.0	0.0
	100.0%	100.0%	100.0%	100.0%

As can be seen, these ratings seldom exceeded a one-point disagreement.

Lessons Taught

In rating lessons taught observers not only had 15 choices, but also were permitted to rate a maximum of three categories in any observation. Agreement was considered to be complete if both observers gave an identical rating for both rank and category of lessons taught. Agreement was regarded as partial if the same lesson was selected by both observers but their ranking differed. Disagreement occurred when one observer selected a lesson which was not chosen by the other. The results of paired comparisons on lessons taught were as shown in Table 4.

TABLE 4

PERCENTAGE OF AGREEMENT BETWEEN OBSERVERS FOR LESSONS TAUGHT IN 44 PAIRED OBSERVATIONS

LESSONS TAUGHT	AGREEMENT (by category and rank)	PARTIAL AGREEMENT (by category only)	DISAGREEMENT
Primary Lesson (Rank #1)	68.2%	18.2%*	13.6%
Secondary Lesson (Rank #2)	52.3	13.6	34.1
Tertiary Lesson (Rank #3)	59.1	13.6	27.3

*Of these, 3, or 13%, were checked in the "Can't Decide" category.

As indicated by the table, observers had more difficulty in agreeing on the intensity of a lesson than on its content. There is high agreement on the presence of the primary lesson--much less agreement on the second or third. In analyzing the data, lessons taught were weighted so that a primary lesson received 1-1/2 times the weight of Rank #2, and 3 times the weight of Rank #3.

Validity

We do not know to what extent our results describe the essential features of day care program. We have given our basis for selecting the variables which were measured and we have described the reliability of our efforts, indicating that a certain amount of error, hopefully random, did exist. In this section we will discuss the adequacy of our sampling, describe some of the problems which we encountered and quote some of the doubts of our observers.

The factor which gives us greatest confidence in our results is the active participation of all staff members at every stage of the research. Our most valuable ideas stemmed from observers' persistent concerns that essential information was being lost or distorted.

Problems of Sampling: Teacher Behavior

As previously indicated, one of the goals of this study was to describe patterns of teacher behavior. This goal was based on the assumption that there are different and discernible patterns of teacher behavior which can be defined by a strategic choice of observational categories and sufficient sampling.

In addition to selecting categories of behavior to be recorded we had to decide on the amount of observation necessary to obtain a sample of teacher behavior which would be adequate for our purposes. During the pilot phase we experimented with a range of 20-minute observations, from six to twelve, and decided that ten 20-minute observations were both feasible and an adequate measure of consistencies in teacher behavior. Our decision was based partly on records for six teachers for each of whom twelve observations were obtained. We totaled the behavior for each teacher in samples of six, eight, ten, and twelve observations and computed the percentage of behavior in each category for these samples. We then compared the differences in percentages within categories between the various samples. (See Table 5.)

TABLE 5

SHOWING THE EFFECT, IN MEAN DIFFERENCES BY PERCENTAGES, OF INCREASES IN NUMBER OF OBSERVATIONS ON CATEGORIES OF TEACHER BEHAVIOR FOR SIX TEACHERS

CATEGORY OF BEHAVIOR	COMPARISON BETWEEN				
	6 and 8 observations (N=6)	8 and 10 observations (N=6)	10 and 12 observations (N=6)	6 and 10 observations (N=6)	6 and 12 observations (N=6)
Encouragement	1.8%	2.5%	1.2%	3.5%	4.0%
Teacher Direction	1.6	1.0	0.9	1.4	1.4
Guidance	2.6	1.3	1.6	3.1	3.6
Restriction	1.2	0.6	1.3	1.6	1.0
Verbal Skills	1.2	1.8	1.6	2.6	2.4

In addition to the procedure described above, we computed rank correlations for the same sample of six teachers. The lowest rank correlation between any of the pairs of observations in the five groups shown in the table above exceeded .80 in all categories, indicating that even six or eight observations differentiate among teachers. We concluded that our experience appeared to correspond with previous research on the amount of observation necessary to obtain an adequate sample (Medley and Mitzel, 1963; Withall, 1952), and settled on ten observations as our sample of teacher behavior.

Problems of Sampling: Center Program

A similar problem of consistency also applied to our sampling of center program. Our decision to select one early morning, one late afternoon, and two mid-morning samples of three age groupings of children was based partly on our judgment that program will vary somewhat with time of day and age of children, but that it does not differ radically from day to day. More important was our finding during the pilot phase that this schedule appeared to be the maximum which commonly would be acceptable to directors who must grant us permission to visit. We do not have figures on the differences which might have occurred from a larger sample of center program. We did try much larger samples of program in two centers during the pilot phase and found day-to-day format to be quite stable. We arbitrarily decided that the over-all validity of the study would be better served by keeping refusals to participate at a minimum and thus sampling a wider range of centers, rather than by increasing the amount of observation in a more restricted sample of centers.

Other Problems Encountered

By the end of the pilot study we felt reasonably satisfied with the technical details of our coding scheme. Our satisfactions and concerns were well summed up at the time by one of the observers as follows:

> In general, the observational scheme and coding categories function rather effortlessly--except for those times when the interaction defies all attempts to pigeon-hole it according to the

> pre-established plan--and you play fantastic games of eenie-meenie-minie-mo! (take heart--these moments are rare!)
>
> I see, therefore, the major problem of the study to be less of technical detail than validity --that great bugaboo of the research study. Are we really measuring what we set out to measure--are we seeing what is really there, or what we need to see there due to the design of the study?

Furthermore, there are certain questions which we cannot answer.

> But more important, how are we perceiving the teacher's behavior? As she would intend it; as the children understand it; as our biases--both personally and study-induced--force us to see it? Hopefully by being distributed between five observers the observational material will approximate some degree of truth and the items on the checklist will offer necessary enlightenment.

A major problem centered on the difficulty of devising precise observational measures which also were flexible enough to meet the never-ending diversity of circumstances encountered as we moved from one center to another.

> It is an interesting phenomenon that some of the most pleasant schools, as far as warmth and child orientation go, are often so technically difficult to observe in. The manner in which our schedules are set up is actively geared to--and gives a favorable edge to--the highly structured school.
>
> Will the "good" schools end up looking merely chaotic and disorganized? Undoubtedly the responses to checklist items such as teacher manner and children's response will bail them out nevertheless; the more flexible the program, the more intimate the relationship between teachers and children, the more frantic will be the observer's lot in trying to keep up with the kaleidoscopic nature of things. Accuracy of observations may well suffer.

In the early stages we had hoped to obtain samples of teacher behavior during specified activities. In actual practice this goal proved impossible. Centers differed in program format so that some categories of activities were not found in all centers. Teachers vanished, or combined groups, or departed most disconcertingly from the director's description of morning format. The weather, absences due to illness, and other circumstances were beyond our control.

> . . . there is always of course the problem of "to follow or not to follow"--when the teacher leaves, will she be back in one minute or ten? Shall the observer trail along behind the group into the bathroom to salvage the observation or shall she be discreet and lose some possible material? I think there must be some more ideal plan, from the viewpoint of the study, but it might simply not be feasible for observers or schools. Such a plan would give more leeway, temporally speaking, so that the observer could follow through a solid unit of activity, and reject unimportant bits such as the teacher suddenly leaving the group to sweep the sidewalk, an activity which she might pursue for ten minutes. The need for shifting from one teacher to the other, close to presence of other observers, sometimes complicates things and would make such an ideal plan impossible.

We cannot know how our presence altered program. The presence of visitors obviously was a common occurrence in some centers, and an unusual event in others. One of our observers commented:

> There is the eternal question of not knowing how much of the "Performance" by the teacher qua actor is being directed to the observer as audience, judge and jury. (I recall one instance when I arrived in the late afternoon to do an observation and, finding no one indoors, walked to the back door. I looked out the window, saw the teacher I was to observe, and who had been warm and nurturant that morning, giving the kids holy hell!) Problem--is this change of character due to fatigue or the fact that the teacher didn't know she was being watched?

Our reception varied from relaxed hospitality to a distant or nervous tolerance. Some teachers undoubtedly altered their behavior because of our presence. Probably most teachers tried especially hard to do what they felt was expected. We may have missed examples of unusually harsh behavior or the relaxed informality which stems from the absence of outsiders, but since we were essentially interested in the teacher's conception of acceptable program, we felt that changes due to our presence did not necessarily invalidate the study.

Ways of Reporting Data

The reader will find it helpful to keep in mind that three sources of data will be used throughout the text. One is all 20-minute observations which were recorded in the 50 centers sampled for this study. These observations have an N of 1604, and data from this source include frequencies for categories of teacher behavior, global ratings including lessons taught, and other variables (such as type of activity, setting, number of children to adults, etc.) which could be identified at the time of the observation.

The second source represents sample teachers, those teachers for whom both ten observations and an interview were obtained. Data for these teachers are reported for their overall behavior as revealed by the ten samples. The N for sample teachers is 104. Relationships between these teachers' observed behavior and their attitudes as indicated by interviews, are reported.

The final source represents centers (N=50). This information was obtained by converting all observational data obtained within each center into percentages based on the total number of episodes recorded within that center. Special summary ratings on a number of variables were developed for the centers. Usually these were based on a ranking system. Procedures are explained at the times that the data are introduced.

Certain variables, such as teacher manner, are reported in slightly varying form depending on the source of data under discussion. Although always based on the original 20-minute observation, such data have been summarized for sample teachers and for centers. Consequently they differ from those based on total observations (N=1604), and take a slightly varied form depending on whether the converted, ranked data are for sample teachers or for centers.

Data will be reported in three forms:

1) Frequencies, usually expressed as means. Frequencies are used most often in reporting on categories of teacher behavior and on lessons taught for the entire sample (N=1604) and occasionally for sample teachers.

2) Percentages, used most often in summarizing the combined behavior patterns of all teachers observed in a center (N=50). Percentages also are used for reporting ordinal and nominal data, such as tempo or sponsorship.

3) Rankings, occasionally used to examine variables which are characterized by a wide range from high to low. These rankings may be based on either frequencies or percentages.

Statistical tests of significance are reported in what may appear to be a haphazard fashion throughout the text. F ratios are reported for data which do not appear to violate grossly the assumptions for a one-way analysis of variance. Chi-squares are reported for some data, especially in Chapter VIII. Much of the data has been transformed or regrouped, rendering tests of significance of doubtful value. Throughout the study our decisions regarding its design have been based on recording those data which seemed most important to the understanding of an environment, rather than on the collection of data which, though of unquestionable accuracy, appeared to be less pertinent to our basic questions.

We have chosen not to formulate a series of specific hypotheses, nor have we attempted to establish rigorous statistical proof for our findings. The major purpose of our analysis is to obtain an overview of the functioning of the day care center as a working unit, based on observation of teacher-child interaction within a variety of settings which contain certain features and are peopled by individuals of varying characteristics. To the extent that our data bring into focus many specific features of day care and suggest how these specific features contribute to the experience offered to the child, we feel that our approach is justified.

In the chapters which follow we shall move from a description of teachers and center program to an examination of the series of variables which appear to predict variations in teacher behavior and program format. Then we shall try to tie together our findings in a discussion of physical space (Chapter VIII). Finally, we shall evaluate the types of day care which we have delineated, and conclude with recommendations for possible intervention.

CHAPTER IV

DESCRIPTION OF PROGRAM IN DAY CARE

In this chapter we will describe what teachers do and what center program is like. The relationship of the behavior of individual teachers and of teacher behavior as a component of center program will be discussed within the context of the type of program format found in the centers. Throughout this chapter we will establish for the reader certain basic relationships within the data which will recur throughout the report.

Teacher Behavior

What Do Teachers Do?

The first question which we set out to answer was, simply, what do teachers do in day care centers? We wanted to get some idea of the amount of time which teachers in this type of environment normally spend in the various categories of interaction which we have described.

Figure 1 shows the percentage of time which a hypothetical average teacher spends in each of the possible general behavior categories in a sample of ten observations or 200 minutes of activity. It can be seen that approximately one-fifth of her time is spent in non-communicative activities (such as preparation of materials, housekeeping duties, or silent supervision) which do not bring her into direct contact with children. Guidance and encouragement account for nearly one-half of her total activity. Restriction accounts for a relatively small percentage of her total behavior.

Figure 1

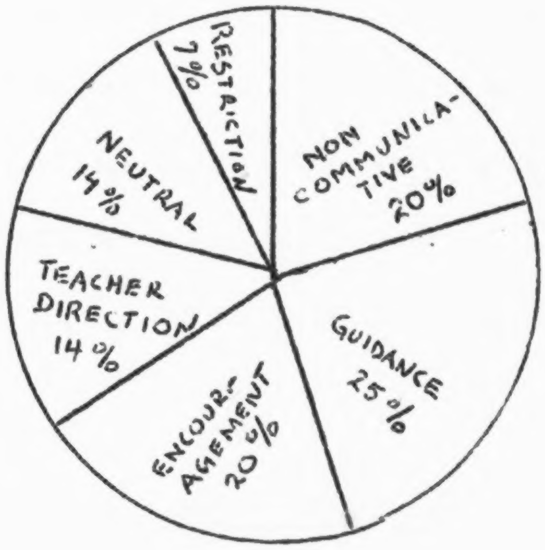

Table 6 shows how an average teacher distributes her time when she is actively involved with children. It describes the distribution of teacher behavior by percentages within the categories of communicative behavior only. As can be seen from Table 6, when a teacher is making contact with children she most often directs her attention to individuals. Seventy-seven percent of all teacher behavior was found to be directed to the individual child. Fifteen percent was directed toward the entire group, while only eight percent was directed toward a subgroup consisting of two or more children. Thus it can be seen that a teacher in a group program still places primary emphasis on contact with children one at a time.

TABLE 6

DISTRIBUTION OF TEACHER BEHAVIOR WITHIN

CATEGORIES OF COMMUNICATIVE BEHAVIOR

CATEGORIES OF TEACHER BEHAVIOR	MEAN PERCENTAGE OF TEACHER BEHAVIOR			
	Directed to			
(N=104 teachers)	Individuals	Subgroups	Groups	Total
Encouragement				
Supporting/extending	0.3%	0.1%	0.1%	0.5%
Responsive	8.7	1.0	0.7	10.4
Routine	8.7	0.1	0.3	9.1
Approval/nurturance	3.1	0.1	0.1	3.3
Total	20.8	1.3	1.2	23.3
Teacher Direction				
Teacher suggestion	6.7	1.0	7.5	15.2
Teacher approval	1.9	0.1	0.3	2.3
Total	8.6	1.1	7.8	17.5
Guidance				
Direct	19.6	2.5	2.6	24.7
Indirect	3.4	0.7	1.0	5.1
Manipulative	0.7	0.0	0.3	1.0
Distraction/redirection	0.5	0.0	0.0	0.5
Total	24.2	3.2	3.9	31.3
Restriction				
Simple	6.2	0.7	0.3	7.2
Firm enforcement	0.7	0.0	0.0	0.7
Belittling/disparaging	0.6	0.0	0.0	0.6
Total	7.5	0.7	0.3	8.5
Neutral				
Information exchange	7.5	0.8	1.3	9.6
Care of physical needs	7.1	0.5	0.0	7.6
Total	14.6	1.3	1.3	17.2
Not Ascertainable				
Total	1.8	0.4	0.0	2.2

TABLE 6 (CONT.)

CATEGORIES OF TEACHER BEHAVIOR (N=104 teachers)	MEAN PERCENTAGE OF TEACHER BEHAVIOR Directed to Individuals	Sub-groups	Groups	Total
Verbal Skills*				
Repetitive	0.3%	0.1%	2.1%	2.5%
Expressive	2.8	0.2	1.7	4.7
Interpretive	4.2	0.5	0.6	5.3
Informational	1.8	0.2	0.9	2.9
Total	9.1	1.0	5.3	15.4
Total (minus Verbal Skills)*	77.5%	8.0%	14.5%	100.0%

*In contrast to other categories, which were mutually exclusive, Verbal Skills were always coded in combination with other categories. They are therefore excluded from all totals.

Certain behaviors are strongly associated with the direction of the teacher's action to individuals or to groups. Encouragement and restriction, for example, are highly associated with action toward individuals. Teacher direction is more commonly utilized with children in a group, as is repetition of verbal patterns such as grace before meals. About 15 per cent of the average teacher's communicative behavior was coded as also conveying verbal skills.

Early in the study, it became apparent that variation in teacher behavior could not be wholly separated from the type of activity setting in which the teacher and children were engaged. The role of the activity setting will be discussed in the chapter which follows. In this chapter we are principally examining general patterns of teacher behavior to ascertain which aspects of teacher behavior were most consistently present or absent throughout a series of observations on a single teacher.

Since each of our sample teachers was observed for ten times during our visits to a center, we used a split-half correlation to compare odd-numbered and even-numbered observations (i.e., we compared observations #1, 3, 5, 7 and 9 with observations #2, 4, 6, 8 and 10). Table 7 shows all correlations of .60 or higher. Reference to Table 6, page 101, will enable the reader to see which categories of behavior are less consistent. Those with a mean percentage of less than 6.0 rarely correlate at .60 or higher, while those with higher mean percentages invariably do correlate except in two categories, teacher direction and neutral behavior.

Apparently these two categories of behavior are most likely to vary with activity setting. In contrast, encouragement and restriction are the most stable behaviors in the teacher's repertoire. Apparently these represent dimensions of teaching style substantially independent of changes in activity setting. In general, teachers are relatively constant in their approaches to children from one observation to the next.

What Do Teachers Teach?

Teachers varied greatly in the extent to which they were actively engaged in implementing educational goals for children, as judged by our observers. Each sample teacher, who was observed ten times, could have been rated for ten

TABLE 7

CATEGORIES OF TEACHER BEHAVIOR: CORRELATION OF ODD- AND EVEN-NUMBERED OBSERVATIONS*

Total episodes	.75
Total communicative episodes	.72
Encouragement	
Total to individuals	.80
Responsive to individuals	.71
Routine to individuals	.68
Teacher Direction	
Teacher approval to individuals	.60
Guidance	
Total to individuals	.66
Direct to individuals	.61
Indirect to individuals	.65
Restriction	
Total to individuals	.79
Total to subgroups	.60
Total to groups	.66
Simple to individuals	.65
Firm enforcement to individuals	.66
Neutral	
Information exchange to individuals	.61
Verbal Skills	
Total to individuals	.64

*Only correlations of .60 or above are shown.

primary (rank #1) lessons taught, as well as ten secondary (rank #2) and ten tertiary (rank #3) lessons. That the case was far otherwise is shown in Table 8, which indicates the frequency with which sample teachers were rated for lessons taught during ten observations. The greater mean frequency of secondary than of primary lessons reflects the extent to which observers rated primary lessons in the "can't decide" category. Only two teachers (1.9%) were rated for a primary lessons taught in every observation, while nearly one-fifth were rated as teaching a primary lesson no more than once in the ten observations. The majority of teachers taught no primary lessons, as rated, in more than half the observations.

Of course, the absence of a rating does not mean that the children were learning nothing. Many teachers set up a rich environment for children to pursue their own activities and then withdraw to observe unless help is needed. Ratings for lessons taught record the teacher's emphasis during the 20-minute period as measured by her words and actions. Table 9 shows the total number of ratings which were recorded for each category of lessons taught for the entire sample of 1604 observations. Lessons such as dealing with strong emotions or large muscle skills occurred with very low frequency, while those in rules of social living and control and restraint were quite common.

TABLE 8

LESSONS TAUGHT: FREQUENCY OF RATINGS ON SAMPLE TEACHERS DURING TEN OBSERVATIONS

NUMBER OF LESSONS TAUGHT BY SAMPLE TEACHERS	PERCENTAGE OF TEACHERS RATED FOR LESSONS TAUGHT		
	Primary	Secondary	Tertiary
	(N = 104 teachers)		
0	5.8%*	1.0%	3.8%
1	13.5	3.8	5.8
2	14.4	11.5	18.3
3	24.0	16.3	19.2
4	13.5	24.0	21.2
5	9.6	16.3	15.4
6	10.6	12.5	8.7
7	3.8	5.8	6.7
8	3.8	3.8	0.0
9	1.0	2.9	1.0
10	0.0	1.9	0.0
	100.0%	100.0%	100.0%
Mean frequency for 10 observations	3.5	4.4	3.7

* Percentages represent the proportion of teachers in each category. The first figure in the first column should be read: 5.8% of teachers were rated as teaching no primary lessons in 10 observations.

TABLE 9

DISTRIBUTION OF LESSONS TAUGHT BY CATEGORIES

LESSONS TAUGHT	FREQUENCY OF RATINGS			
(N = 1604 observations)	Rank #1	Rank #2	Rank #3	Total
Physical Skills				
Large muscle	13	13	11	37
Eye-hand coordination	17	37	21	75
Verbal-physical coordination	34	48	60	142
Social Skills				
Rules of social living	56	101	79	236
Dealing with other children	13	44	42	99
Consideration	55	57	40	152
Intellectual Skills				
Formal skills	71	74	54	199
Knowledge and awareness	54	45	37	136
Pleasure, awe and wonder	37	40	33	110
Self-Responsibility				
Self-sufficiency	44	56	53	153
Creativity & experimentation	31	69	31	131
Control and restraint	56	85	116	257
Dealing with strong emotions	0	3	9	12
Can't Decide	141	--	--	141
Total Lessons Taught	622	672	586	1880
No Lesson Taught	982	932	1018	2932

The reader should keep in mind that our criterion for rating lessons taught was active teacher emphasis. The criterion biased the frequencies for certain categories. For example, many play yards are designed to elicit much large muscle activity in children, regardless of teacher emphasis, but lessons in control and restraint and rules of social living require a teacher's intervention and thus were rated much more frequently. Ideally we would have preferred a measure of lessons taught which did not ignore environmental opportunities. However, such rating presents great difficulty unless children are observed systematically, and we had already committed ourselves to observe teacher behavior.

According to our observational format a teacher could be rated as teaching three lessons, if the observer felt that three emphases had been present during a 20-minute observation. In actual practice a rating of three lessons in one observation was infrequent. Of 1604 observations only 165 or 10.3 percent were rated as having included three lessons during one observation. Certain lessons, however, tended to be rated together with a relatively high degree of frequency. Table 10 shows the lessons ranked as #1 which were found in relationship with #2 ranked lessons more than 15 percent of the time. (Lessons ranked #3 are not presented here, because these relationships were both low and scattered. See Appendix B1 for complete table.)

Interestingly, lessons in pleasure, awe and wonder occurred with greatest frequency in conjunction with emphasis on physical skills. Rules of social living and ratings on control and restraint are highly interrelated, while creativity and experimentation is associated with the social skills of consideration and dealing with other children.

TABLE 10

CO-OCCURRENCE OF LESSONS TAUGHT*

LESSONS TAUGHT RANKED #1	Percentage of Co-occurrence	LESSONS TAUGHT RANKED #2
Eye-hand coordination	35.3%	Formal skills
Consideration	27.3	Creativity and experimentation
Rules of social living	26.8	Control and restraint
Dealing with other children	23.1	Creativity and experimentation
Control and restraint	21.4	Rules of social living
Pleasure, awe and wonder	18.9	Knowledge and awareness
Pleasure, awe and wonder	18.9	Verbal-physical coordination
Knowledge and awareness	18.5	Formal skills
Consideration	15.4	Dealing with strong emotions
Large muscle skills	15.4	Pleasure, awe and wonder

* Only co-occurrences which exceeded 15% are shown.

How Did Observers Perceive Teachers?

Because observers felt during the pilot phase of the study that information was being lost when observation was restricted to categories of episodic teacher behavior, global ratings were added for each 20-minute observation. These included, in addition to lessons taught, ratings of teacher manner, tempo, and teacher verbalization. Ratings were not to be tied to recorded observational data, but marked as over-all global impressions. Both tempo and teacher verbalization were characterized by split-half correlations above .70, indicating consistency of teachers in these ratings. Teacher manner was more variable. In this section the relationship of these global ratings to categories of teacher behavior and to lessons taught is examined.

Teacher Manner

As described previously, teachers were rated at the end of each observation according to their manner during the 20-minute period; i.e., sensitive, friendly, neutral or irritable. Table 11 shows the relationship of teacher manner to categories of teacher behavior. Teachers who were perceived as sensitive or friendly used significantly more encouragement of all types except routine, and less restriction than teachers rated in other categories. Encouragement and restriction have already been described as characterized by consistency in performance. Teacher manner is also related, however, to other aspects of behavior. Large amounts of guidance are associated with less favorable ratings on teacher manner. Teacher direction tends to be associated with neutral ratings.

It appears that teachers who are rated consistently as sensitive in teacher manner not only use large amounts of nonroutine encouragement, but also refrain from using restriction--especially that which is belittling and disparaging. Teachers who are rated less favorably apparently spend

TABLE 11

RELATIONSHIP BETWEEN TEACHER BEHAVIOR AND TEACHER MANNER

(Figures are mean frequencies)

TEACHER BEHAVIOR	TEACHER MANNER			
(N = 1604 observations)	Sensitive (N=234)	Friendly (N=727)	Neutral (N=584)	Irritable (N=59)
Non-communicative	15.1	17.7	17.1	18.6
Individual Encouragement				
Supporting/extending**	0.7	0.3	0.0	0.0
Responsive**	11.1	7.0	3.6	2.4
Routine*	5.1	5.6	6.1	4.0
Approval/nurturance**	4.2	2.8	1.3	0.7
Total**	21.1	15.7	11.0	7.1
Individual Teacher Direction				
Teacher suggestion	4.4	4.2	4.0	2.1
Teacher approval*	0.8	0.9	1.2	1.4
Total	5.2	5.1	5.2	3.5
Individual Guidance				
Direct**	10.5	11.7	14.7	18.3
Indirect**	2.8	2.4	2.1	1.3
Manipulative**	0.2	0.4	0.6	0.6
Distraction/redirection	0.4	0.3	0.3	0.5
Total	13.9	14.8	17.7	20.7
Individual Restriction				
Simple**	2.2	3.1	5.4	9.3
Firm enforcement**	0.2	0.3	0.6	1.5
Belittling/disparaging**	0.0	0.1	0.5	3.2
Total	2.4	3.5	6.5	14.0
Individual Verbal Skills				
Repetitive	0.2	0.1	0.2	0.1
Expressive	2.0	1.8	1.8	0.7
Interpretive**	3.3	2.7	2.6	1.8
Informational*	1.4	1.2	1.0	0.6
Total	6.9	5.8	5.6	3.2
Group Guidance				
Direct**	1.0	1.4	2.0	2.3
Indirect*	0.5	0.6	0.7	0.3
Manipulative**	0.0	0.0	0.3	0.2
Distraction/redirection	0.0	0.0	0.1	0.0
Total	1.5	2.0	3.1	2.8

Significant at ** .01, * .05 level (F ratio)

much more time in guidance and restriction of all types. They consistently use very little responsive encouragement.

Both numbers and types of lessons taught appear to be related to observer judgment on teacher manner. (See Table 12.) Teachers rated as sensitive have high percentages of lessons in consideration for rights and feelings of others, pleasure, awe and wonder, and creativity and experimentation. Teachers rated as irritable are high in lessons on rules of social living and are exceedingly high on control and restraint. Friendly ratings for teachers seem to be associated with a wider spread of lessons taught, especially in physical and intellectual skills. Teachers rated as neutral are high on rules of social living, control and restraint and formal skills.

The density of lessons taught, as indicated by percentage of lessons taught for each of the three rankings, is shown in Table 13. As teachers are perceived as more sensitive, they also are perceived as teaching more lessons. Irritable teachers rate high on primary lessons (mostly control and restraint), but then fall off rapidly.

Tempo

The tempo of each 20-minute observation period was rated as lethargic, relaxed, average, stimulating, or rushed. Looking at the entire sample, it can be seen that the most ratings were from relaxed to stimulating, and that only a small number were rated as rushed or lethargic. Teacher behavior varies with tempo. (See Table 14.)

TABLE 12

RELATIONSHIP BETWEEN LESSONS TAUGHT AND TEACHER MANNER

(Figures show lessons taught as a percentage of all observations in each category*)

LESSONS TAUGHT	TEACHER MANNER			
(N = 1004 observations)	Sensitive (N=141)	Friendly (N=460)	Neutral (N=369)	Irritable (N=34)
Physical Skills				
Large muscle	3.5%	2.5%	2.2%	0.0%
Eye-hand coordination	2.1	5.7	5.2	1.4
Verbal-physical coordination	4.5	9.3	6.3	0.0
Social Skills				
Rules of social living	2.9	9.6	22.4	22.5
Dealing with other children	6.8	7.0	2.3	4.2
Consideration	21.2	9.3	1.7	0.0
Intellectual Skills				
Formal skills	6.5	11.7	15.5	7.0
Knowledge and awareness	6.3	8.1	4.6	0.0
Pleasure, awe & wonder	15.3	6.1	0.0	0.0
Self-responsibility				
Self-sufficiency	9.4	7.2	7.7	0.0
Creativity & experimentation	15.5	10.2	0.9	0.0
Control and restraint	0.6	4.4	23.5	60.6
Dealing with strong emotions	1.2	0.4	0.3	0.0
Can't Decide	4.1	8.4	7.4	4.2

*Data in this table are presented in a manner which will be followed throughout the text, unless otherwise indicated. The frequencies within categories for all ranks have been weighted and then added. The weight of a rank #1 lesson is twice that of a rank #2 lesson and three times that of a rank #3 lesson. The weighted totals have then been transformed into percentages based on total number of points accrued in this manner.

TABLE 13

LESSONS TAUGHT FOR THREE RANKINGS BY TEACHER MANNER

(Figures show lessons taught as a percentage of all observations)

RANK NUMBER	TEACHER MANNER			
	Sensitive	Friendly	Neutral	Irritable
(N = 1004 observations)	(N=141)	(N=460)	(N=389)	(N=34)
Rank #1 (Primary)	61.7%	38.7%	26.3%	47.1%
Rank #2 (Secondary)	65.2	45.2	30.6	26.5
Rank #3 (Tertiary)	46.1	33.0	33.1	14.7

TABLE 14

RELATIONSHIP BETWEEN TEACHER BEHAVIOR AND TEMPO*

(Figures are mean frequencies)

CATEGORIES OF TEACHER BEHAVIOR	TEMPO				
(N = 1604 observations)	Lethargic (N=78)	Relaxed (N=490)	Average (N=622)	Stimulating (N=389)	Rushed (N=25)
Communicative episodes	40.9%	58.7%	64.9%	78.0%	91.9%
Non-communicative episodes	23.4	20.1	17.3	14.0	15.0
All nonroutine encouragement	4.5	11.4	9.3	11.8	4.6
All teacher direction	2.2	6.1	9.6	18.6	17.0
All guidance	16.3	17.2	21.7	22.9	33.1
All restriction	6.4	5.2	5.4	5.8	13.0
Belittling/disparaging to individuals	0.3	0.2	0.4	0.3	2.9
All information exchange	4.1	5.5	6.4	7.7	9.1
All care of physical needs	3.4	4.4	5.2	4.3	9.8
All verbal skills	2.9	8.2	8.5	14.7	7.7

*Only relationships significant at .01 level (F ratio) are shown.

Numbers of episodes increased steadily with a perceived increase in tempo, although nonroutine encouragment was relatively high for both relaxed and stimulating tempo. Restriction was proportionately high for extremes in tempo. For both rushed and lethargic, restriction accounts for nearly fifteen percent and guidance approximately thirty percent of total episodes. Tempos rated as stimulating appear to emphasize teacher direction and verbal skills, while relaxed tempo is lower in these categories, but equally high in nonroutine encouragement.

The relationships between tempo and lessons taught are shown in Table 15. Verbal-physical coordination, formal skills, knowledge and awareness, and pleasure, awe and wonder were all important lessons in observations rated as stimulating. Relaxed tempo was associated with high ratings on consideration and creativity and experimentation, but was relatively low in total lessons taught. Average tempo rated relatively high on control and restraint and rules of social living, but relatively low in total lessons taught. Rushed tempo resulted in a very high percentage of lessons in control and restraint.

Teacher verbalization is positively correlated with tempo. Unfortunately, this variable was omitted from our data processing on tempo. The relationship of teacher verbalization to other aspects of teacher behavior is indicated in the factor analysis which follows.

TABLE 15

RELATIONSHIP BETWEEN LESSONS TAUGHT AND TEMPO*

(Figures show lessons taught as a percentage of all observations)

LESSONS TAUGHT	TEMPO				
(N = 1604 observations)	Lethargic (N=78)	Relaxed (N=490)	Average (N=622)	Stimulating (N=389)	Rushed (N=25)
Physical Skills					
Large muscle	1.3%	0.8%	0.3%	1.5%	0.0%
Eye-hand coordination	0.0	1.0	1.3	1.0	0.0
Verbal-physical coordination	0.0	0.8	1.8	4.9	0.0
Social Skills					
Rules of social living	3.8	1.8	4.8	3.6	0.0
Dealing with other children	0.0	1.8	0.3	0.3	4.0
Consideration	0.0	5.9	2.1	3.3	0.0
Intellectual Skills					
Formal skills	0.0	1.0	4.2	9.8	8.0
Knowledge and awareness	0.0	2.0	2.4	7.2	4.0
Pleasure, awe & wonder	0.0	1.4	1.4	5.4	0.0
Self-Responsibility					
Self-sufficiency	2.6	2.2	3.2	2.8	0.0
Creativity & experimentation	0.0	3.5	1.4	1.0	4.0
Control and restraint	6.4	1.6	4.7	2.6	16.0
Dealing with strong emotions[1]	0.0	0.0	0.0	0.0	0.0
Can't Decide	9.0	10.4	7.1	9.3	12.0
Total Lessons Taught	23.1	34.2	35.1	52.7	48.0
No Lesson Taught	76.9	65.5	64.9	47.3	52.0

* Primary (Rank #1) lessons only.

[1] Dealing with strong-emotions was not rated as a primary lesson.

Patterns of Teacher Behavior

We had postulated that there are common elements of teacher style which would enable us to describe patterns of teacher behavior. For this purpose we selected fifty-two variables, which were reliable and of theoretical significance, for the purpose of discovering which ones were sufficiently intercorrelated to form patterns. A factor analysis using a principal components solution disclosed four patterns of teacher behavior. (See Appendix B2.) Only loadings of .29 or above are presented in the data which follow.

Certain transformations of data may be confusing to the reader. The use of the word "all" means that total behavior within a given category directed to individuals, to subgroups, and to groups has been added together giving a grand total labeled as "all." The term "nonroutine encouragement" means total encouragement minus the category of routine encouragement.

Pattern I: Encouragement/Restriction

This pattern was the strongest (as indicated by eigenvalues) and was definitely bi-polar. Fifteen teacher behavior categories were represented in this factor as shown in Table 16.

This factor appears to describe the alternative ways in which teachers respond to the feelings and behavior of children. Those teachers who accept and elaborate on children's behavior account for high positive loadings on encouragement and on lessons in consideration and creativity. This type of behavior occurs in the absence of large amounts of restriction and use of control and restraint, behaviors which characterize teachers who respond repressively to children's feelings and behavior.

TABLE 16

TEACHER BEHAVIOR PATTERN I:

ENCOURAGEMENT/RESTRICTION

TEACHER BEHAVIOR	FACTOR LOADING
Nonroutine encouragement to individuals	.89
All nonroutine encouragement	.87
All encouragement	.81
Approval/nurturance to individuals	.68
Consideration*	.53
Creativity and experimentation*	.52
Total verbal skills to individuals	.48
Interpretive verbal skills to individuals	.47
All routine encouragement	.34
Pleasure, awe and wonder*	.33
Information exchange to individuals	.32
Rules of social living*	-.31
Total restriction to individuals	-.57
All restriction	-.62
Control and restraint*	-.68

* Lessons Taught

Pattern II: Conformity to Routine

This pattern appeared as the second factor, with fifteen variables present in varying degrees of strength. (See Table 17.)

This factor appears to reflect the extent to which a teacher is concerned with enabling individual children to adapt to the routines of social living. There is high emphasis on guidance and on care of physical needs and other neutral activities. Restriction and, to a lesser degree, control and restraint also appear high in this factor, possibly because the emphases described can be achieved only by the use of restrictive discipline.

TABLE 17

TEACHER BEHAVIOR PATTERN II:
CONFORMITY TO ROUTINE

TEACHER BEHAVIOR	FACTOR LOADING
Total behavior directed to individuals	.90
Total guidance to individuals	.83
Total neutral behavior to individuals	.81
Information exchange to individuals	.77
All guidance	.76
Total restriction to individuals	.63
High teacher verbalization	.61
All restriction	.59
Interpretive verbal skills to individuals	.59
Care of physical needs to individuals	.51
Total verbal skills to individuals	.42
Fast tempo	.40
All routine encouragement	.31
Control and restraint*	.31
Total behavior directed to subgroups	.30

* Lessons Taught

Verbal skills also appear high on this scale, but they are not accompanied by ratings for any lessons taught which are indicative of educational emphasis. The presence of an emphasis on verbal skills may be tied more to an explanation of instructions than to explanations of social relationships. The high loadings for tempo and teacher verbalization indicate that these teachers are active and talkative. However, in the absence of nonroutine encouragement or of indications of lessons taught, except for a low loading for control and restraint, it would appear that these teachers are not warmly involved and have relatively little effective educational contact with children.

Pattern III: Group Teaching

The third factor, containing sixteen variables, is bipolar, indicating that the major variables are present when large amounts of non-communicative and neutral behavior are absent. (See Table 18.)

This factor appears to describe an emphasis on group-centered teaching. Activity directed to groups is high, and there is a marked absence of attention to physical care. Attention is directed primarily to teaching, evidently with particular emphasis on verbal skills, such as those taught in lessons on verbal-physical coordination and on formal skills. The loadings for tempo and teacher verbalization indicate that these teachers, like those described in the preceding factor, do not function at a relaxed pace. Behavior directed to individuals is particularly characterized by teacher suggestion, teacher approval, and emphasis on verbal skills.

3

TABLE 18

TEACHER BEHAVIOR PATTERN III: GROUP TEACHING

TEACHER BEHAVIOR	FACTOR LOADING
All behavior directed to groups	.72
Formal skills*	.67
All verbal skills	.64
Teacher suggestion to individuals	.63
Teacher approval to individuals	.59
High number of lessons taught	.58
Verbal-physical coordination*	.54
Total verbal skills to individuals	.47
Fast tempo	.45
High teacher verbalization	.45
All routine encouragement	.35
Knowledge and awareness*	.34
Rules of social living*	.34
Total neutral behavior to individuals	-.30
Non-communicative behavior	-.41
Care of physical needs to individuals	-.55

*Lessons Taught

Pattern IV: Independence

The last factor to be extracted is also bi-polar and draws more on content, as indicated by the predominance of lessons taught, than on approach, as indicated by the paucity of loadings in categories of teacher behavior. It includes only eight variables. (See Table 19.)

This factor appears to describe teachers who spend limited time in communicative interaction with children, who encourage children to solve their own problems, and who are acceptant of actions and feelings. These teachers use relatively little routine encouragement or praise for correct response. Their primary attitude appears to be one of fostering independence and of restraint from active involvement which might detract from the child's ability to work out his own solutions. The high loading for low numbers of lessons taught further points to an absence of any indicators for consistent involvement with children.

TABLE 19

TEACHER BEHAVIOR PATTERN IV: INDEPENDENCE

TEACHER BEHAVIOR	FACTOR LOADING
Low number of lessons taught	.71
Self-sufficiency*	.59
Dealing with strong emotion*	.50
Non-communicative behavior	.47
Consideration for rights and feelings*	.39
Dealing with other children*	.36
Teacher direction to individuals	-.29
All routine encouragement	-.29

* Lessons Taught

Summary

In these sections we have described some of the basic features of teacher behavior. We found that, even though teachers are working with groups of children, they direct most of their activity to children as individuals. The largest part of their time is spent in guidance, followed closely by encouragement and non-communicative behavior.

The features of a teacher's behavior which appear to be most consistent over a series of observations are the frequent use of either encouragement or restriction. Apparently, few teachers make high use of both; rather, they utilize one in the absence of the other. A second feature which appears to be fairly stable is the activity level of the teacher as indicated by the amount of teacher verbalization and number of communicative episodes.

Both of these characteristics are indicated in the factor analysis. Pattern I, Encouragement/Restriction, describes teachers who are high in encouragement and low in restriction, or vice versa. Patterns II and III both appear to describe teachers whose general activity level is high. However, the second factor describes activity which seems primarily concerned with maintenance of routines of daily living, while the third factor describes activity which is definitely educational and is directed primarily to groups of children.

The fourth factor has few loadings in the categories of teacher behavior. It appears to identify teachers whose level of communicative activity is lower than those who are characterized by Patterns II and III. Their activity is designed to encourage independence in children, and thus, it may be surmised, to reduce the necessity for active teacher intervention.

In the next section teacher behavior will be considered as a component in program, the total patterns of all behavior which characterize each center.

Patterns of Center Program

In the preceding section we have discussed patterns of teacher behavior for the purpose of elucidating teacher style. Center program, however, is expected to represent something more than the sum of individual teaching styles. Program includes the selection of activities within a center as well as the format in which they are presented. We would expect, therefore, that patterns of program would resemble teaching patterns, but also that they would reveal certain differences because of these additional factors.

The data on which information regarding center program is based are totals for all observed behavior within each center, converted into percentages within categories. A factor analysis (principal components solution), using forty variables, again disclosed four major factors which describe patterns of program in centers.

Two factors are quite similar to those for teachers. The first and strongest resembles teacher Pattern I, Encouragement/Restriction; the other describes an emphasis on group teaching comparable to that of teacher Pattern III. In the center pattern, however, both group teaching and the alternative pole of teaching directed toward individuals are brought more clearly into focus.

The other two patterns bear some resemblance to teacher patterns of conformity to routine and independence, since they appear to deal with style of leadership. Here again, the patterns for center program show a more clearly drawn bi-polar dimension.

Although certain center patterns closely resemble those describing teacher style, we have assigned them different titles in order to facilitate separate identification of each. (For complete factor analysis see Appendix B3.)

Pattern I: Freedom-Restraint

The first factor, and clearly the strongest (eigenvalue of 10.56), appears to describe the way in which centers approach the problem of self-expression. (See Table 20.)

TABLE 20

CENTER PATTERN I: FREEDOM-RESTRAINT

CENTER PATTERN	FACTOR LOADING
Sensitive teacher manner	.83
All nonroutine encouragement	.78
Total encouragement to individuals	.63
Pleasure, awe and wonder*	.59
Dealing with other children*	.59
Creativity and experimentation*	.55
Consideration*	.34
Dealing with strong emotions*	.30
Teacher approval to individuals	-.37
Total guidance to groups	-.45
Total guidance to individuals	-.60
All guidance	-.66
Rules of social living*	-.68
Total restriction to individuals	-.84
All restriction	-.86
Control and restraint*	-.86

* Lessons Taught

At one extreme are centers which encourage children to act on their own, as indicated by high loadings for encouragement, dealing with other children, and creativity and experimentation. Teachers also appear warm and pleasure-giving as indicated by sensitive teacher manner and lessons in pleasure, awe and wonder and consideration.

At the other extreme are centers which emphasize control through restriction, lessons in control and restraint and rules of social living. This emphasis is also accompanied by large amounts of guidance.

Pattern II: Active-Inactive Teacher Leadership

The second factor appears to describe the educational approach of centers. (See Table 21.) At one extreme are centers at which educational experiences are actively introduced. Verbal skills, formal skills, knowledge and awareness of the world are emphasized, and learning is fostered by teacher approval.

At the other extreme are centers which are rated low in numbers of lessons taught. These centers are high in non-communicative behavior and in activity directed to subgroups. The high ratings for subgroups probably reflect a practice of directing requests and comments to a small group of children, instead of individualizing requests. For example, teachers in these centers might say to three children, "Pick up the blocks" while other teachers would make the same request to each child individually. Teachers in these centers provide physical care and necessary guidance, but apparently do not take the initiative in extending children's experiences; self-sufficiency is the only lesson frequently taught. High ratings in these categories indicate teachers who tend to be distant with children. (Many teachers have little behavior classified as physical care because shoe-tying and hair-combing are done affectionately and consequently are coded as approval/nurturance.)

TABLE 21

CENTER PATTERN II: ACTIVE-INACTIVE TEACHER LEADERSHIP

CENTER PATTERN	FACTOR LOADING
Total behavior directed to subgroups	.55
Care of physical needs to individuals	.50
Self-sufficiency*	.46
Non-communicative behavior	.44
All guidance	.32
Low number of lessons taught	.31
Total behavior directed to groups	-.31
Rules of social living*	-.32
Total verbal skills to groups	-.41
Total teacher direction to groups	-.46
Knowledge and awareness*	-.50
Formal skills*	-.50
Total verbal skills to individuals	-.56
Teacher approval to individuals	-.58
All verbal skills	-.65
Teacher suggestion to individuals	-.82
All teacher direction	-.82
Total teacher direction to individuals	-.89

* Lessons Taught

Pattern III: Individual-Group Program

Factor III contrasts programs in which children are approached as individuals with programs in which teachers work with entire groups of children. (See Table 22.)

TABLE 22

CENTER PATTERN III: INDIVIDUAL-GROUP PROGRAM

CENTER PATTERN	FACTOR LOADING
Total behavior directed to individuals	.82
Consideration*	.58
Information exchange to individuals	.46
All nonroutine encouragement	.45
Creativity and experimentation*	.44
Total verbal skills to individuals	.43
Knowledge and awareness*	.41
Total encouragement to individuals	.40
Total neutral behavior to individuals	.30
Eye-hand coordination*	-.30
Formal skills*	-.34
Verbal-physical skills*	-.44
All teacher direction	-.50
Total verbal skills to groups	-.66
Total teacher direction to groups	-.69
Total guidance to groups	-.70
Total behavior directed to groups	-.84

* Lessons Taught

Both ends of this factor have high loadings for educational content and verbal skills. The preference for an individual or a group program appears to determine the type of educational content within that program. Program in which teachers deal primarily with individuals are high in encouragement and emphasize consideration, creativity and experimentation, and knowledge and awareness. Programs with a high group teaching component emphasize verbal-physical coordination, formal skills, and eye-hand coordination.

Pattern IV: Direct-Indirect Style of Superficial Involvement

Factor IV appears to describe opposite ways in which centers provide for a somewhat superficial involvement with children. (See Table 23.)

TABLE 23

CENTER PATTERN IV: DIRECT-INDIRECT STYLE OF SUPERFICIAL INVOLVEMENT

CENTER PATTERN	FACTOR LOADING
Total neutral behavior to individuals	.64
Care of physical needs to individuals	.48
Information exchange to individuals	.43
Self-sufficiency*	.37
Total behavior directed to individuals	.34
Non-communicative behavior	.30
Total verbal skills to groups	-.33
All verbal skills	-.44
Routine encouragement to individuals	-.83
All routine encouragement	-.84

* Lessons Taught

At the one extreme are centers in which teachers are characterized by neutral behavior, especially care of physical needs, and by fostering of self-sufficiency. These teachers are high on non-communicative activity and appear to withdraw and maintain a certain distance between themselves and the children. At the other extreme are teachers who use large amounts of routine encouragement. They appear to be much more active, but their response although frequent probably is perfunctory, rather than based on involvement in children's activities and interests.

Summary

Underlying all the factors there appears to be a theme of alternative convictions concerning effective child rearing. At one pole are adults who socialize children by providing them with prescribed forms of behavior-cultural givens which it is children's task to acquire with assistance from adults. At the other extreme are adults with the viewpoint that individualized forms of social behavior can be developed from within the child himself, if they are drawn out, recognized by the child, and confirmed by adults.

These divergent views lead to logically opposite conclusions about the kinds of competence which should be fostered in children. Those who believe that form must be given, choose to teach factual information and give generous feedback for right and wrong. Those who seek to develop children's individualized behavior attempt to foster general attitudes of consideration for others and an experimental, questioning approach to the environment.

A second dimension suggested by the factor analysis is that of the teacher's involvement and her experience of herself as an active force in the environment. Teachers who use their power actively are high in encouragement or restriction, and in numbers of lessons taught. Teachers who view themselves as less powerful appear to maintain minimal involvement either by large amounts of non-communicative behavior, attention to physical care, or the use of routine encouragement.

Program Format

The explanation for the differences between patterns of center program and patterns of teacher behavior lies, we believe, in the type of program format found within centers. These formats describe the mode of presentation, and determine to some extent the content, of activities which are made available to children.

Four modes of presentation of activities were described in the conceptual framework and are repeated here for the convenience of the reader.

> Free play. Children are free to choose among all activities available in the room or yard such as swings, sand pile, climbing equipment, etc. The teacher has not made prior preparations, but uses the play area as it exists.
>
> Free choice. Children are free to choose among all activities available; however, the teacher has made prior preparation and has set up one or more activities especially for this play period such as a clay table or water play.
>
> Teacher-directed group activity. The teacher leads an activity in which the children participate as a group, such as story time, music, or rhythm games. Children are expected or required to participate.
>
> Teacher-directed individual activity. The teacher has planned an activity in which all children are expected to participate, but which is carried out individually by each child such as pasting, puzzles, or drawing.

Each center appears to organize its program around a certain mode of presentation which we have called program format. This choice of format, in turn, appears to regulate aspects of teacher behavior and consequently, to determine the nature of the environment offered to children.

Our method for classifying centers according to program format was based on the frequency with which each of the four modes of presentation described above was observed during the total time spent in each center. Specifically, every 20-minute observation within each center was classified as representing one of eight activity settings. These included, in addition to the four modes of presentation just described, lunch time, clean-up, nap time, and juice or snack. If an activity setting lasted for less than 20 minutes the observation was rated as representing the activity setting which predominated during the observation period. Each category of activity setting was then converted into a percentage of the total activity settings observed within the center. The four program formats on which we have based our classification were identified according to the following criteria, which fit all our sample centers.

Free play format. Free play exceeds 20% of total activity. Free choice is less than 20%, teacher-directed (group or individual) less than 35% of total activity.

Free choice format. Free choice exceeds 20% of total activity. Free play is less than 20%, teacher-directed less than 35%.

Teacher-directed/free play format. Free play exceeds 20% of total activity and teacher-directed exceeds 35%.

Teacher-directed format. Free play is less than 20% of total activity, teacher-directed exceeds 35%. Free choice is unspecified, except that it does not exceed 35%.

The frequency with which these formats were found in our sample is shown below. (See Table 24.)

TABLE 24

CLASSIFICATION OF CENTERS BY PROGRAM FORMAT

TYPE OF FORMAT	FREQUENCY (N=50)	PERCENTAGE OF TOTAL SAMPLE
Free play	15	30.0%
Free choice	10	20.0
Teacher-directed/free play	14	28.0
Teacher-directed	11	22.0
		100.0%

The assignment of centers to each of these categories depends, of course, on the activity setting which we happened to observe while within the center. These observations may have been inadequate to obtain an accurate sample of program format in every center. Some centers were borderline according to our classification scheme, and may have been classified as free play when, in reality, a teacher-directed/free play classification would be more accurate. Also there is a point at which one can not determine absolutely whether a setting is free play or free choice, especially when a wide variety of activities is built into a setting to which only minor props have been added. The least satisfactory classification, from our standpoint, is the teacher-directed format. It was classified as a separate format because the incidence of free play was consistently low. Seven of the eleven teacher-directed centers had at least 20% free choice. Except for the four centers which were low in free choice, this classification could be called a teacher-directed/free choice format. Despite these vagaries we feel that this over-all scheme of classification fitted the data with a minimum of forcing.

Program formats place varying demands on participants. In free play and free choice formats children are free to choose among all of the activities which are available. The teacher's responsibilities, also, are flexible and open. She is somewhat less free, however, within a free choice format because of the necessity for supervising special (and sometimes time-consuming) activities such as painting or water play.

In the two teacher-directed formats the roles of participants are more tightly defined. To the extent that participation is required of children, active participation is obligatory for the teacher as well. She is likely to be simultaneously involved in directing the activity of the majority of the children and attempting to control the peripheral behavior of any reluctant participants.

Table 25 shows the distribution of categories of teacher behavior in centers according to program format. There are significant differences by program format in amount of responsive encouragement, total teacher-direction, distraction/redirection, total neutral behavior and group guidance. In addition there are certain consistent differences between the "free" formats and those which are more teacher-directed. The free play and free choice formats rate higher on encouragement and on neutral behavior, while the teacher-directed formats rate higher on all types of teacher direction.

TABLE 25

RELATIONSHIP BETWEEN TEACHER BEHAVIOR AND PROGRAM FORMAT

(Figures are mean frequencies)

CATEGORIES OF TEACHER BEHAVIOR	PROGRAM FORMAT			
	Free play	Free choice	Tch-Dir/ free play	Tch-Dir.
(N=50 centers)	(N=15)	(N=10)	(N=14)	(N=11)
Communicative Episodes	76.9	78.4	73.5	74.7
Non-communicative Episodes	23.8	22.3	19.5	20.0
Encouragement to Individuals				
Supporting/extending	0.4	0.6	0.2	0.2
Responsive*	10.2	13.0	7.2	8.7
Routine	8.3	7.0	9.0	9.0
Approval/nurturance	4.3	4.2	3.2	3.4
Total	23.2	24.8	19.6	21.3
Teacher Direction to Individuals				
Teacher suggestion	5.0	6.1	6.7	7.4
Teacher approval	1.1	1.2	2.1	1.7
Total*	6.1	7.3	8.8	9.1
Guidance to Individuals				
Direct	20.5	18.2	19.8	19.0
Indirect	3.3	4.1	3.1	3.8
Manipulative	0.5	0.7	0.9	0.6
Distraction/redirection**	0.4	0.8	0.4	0.5
Total	24.7	23.7	24.2	23.9

TABLE 25 (CONT.)

CATEGORIES OF TEACHER BEHAVIOR	PROGRAM FORMAT			
	Free play	Free choice	Tch-Dir/ free play	Tch-Dir.
(N=50 centers)	(N=15)	(N=10)	(N=14)	(N=11)
Restriction to Individuals				
Simple	5.8	5.3	7.5	5.5
Firm enforcement	0.6	0.5	0.6	0.7
Belittling/disparaging	0.6	0.2	0.6	0.5
Total	7.0	6.0	8.7	6.7
Neutral to Individuals				
Information exchange	7.9	9.4	6.9	7.5
Care of physical needs	8.3	6.8	5.5	6.3
Total*	16.2	16.2	12.4	13.8
Verbal Skills to Individuals				
Repetitive	0.2	0.2	0.3	0.3
Expressive	2.5	3.1	2.7	3.0
Interpretive	3.8	4.7	4.0	4.3
Informational	1.4	2.4	1.5	1.8
Total	7.9	10.4	8.5	9.4
Teacher Direction to Groups				
Total	6.4	5.2	8.4	7.4
Guidance to Groups				
Total**	3.1	2.4	4.9	4.0

Significant at ** .01, * .05 level (F ratio)

When centers are ranked according to their over-all percentages of encouragement and restriction (directed to individuals and subgroups and groups) the relationship between teacher behavior and program format is apparent. (See Table 26.) Free play shows a wide range in all categories, but is most characteristic of centers rated average on encouragement and restriction. Free choice is clearly not characteristic of centers which are ranked low in encouragement or high in restriction. The teacher-directed/free play format is found especially in centers with low encouragement and high restriction. The teacher-directed format is also low in encouragement, but over one-third of centers with this format also rank as low in restriction.

TABLE 26

DISTRIBUTION OF PROGRAM FORMAT IN CENTERS RANKED BY ENCOURAGEMENT AND RESTRICTION

CENTER RANKINGS BY TEACHER BEHAVIOR	PROGRAM FORMAT			
(N=50 centers)	Free play (N=15)	Free choice (N=10)	Tch-dir/ free play (N=14)	Tch-dir. (N=11)
All Encouragement				
High (top third)	26.6%	50.0%	21.4%	18.2%
Average (middle third)	46.7	40.0	35.7	45.4
Low (bottom third)	26.6	10.0	42.8	36.4
	100.0%	100.0%	100.0%	100.0%
All Responsive Encouragement				
High	26.6	70.0	14.3	18.2
Average	46.7	30.0	42.8	36.4
Low	26.6	0.0	42.8	45.4
	100.0%	100.0%	100.0%	100.0%
All Restriction				
High	26.6	10.0	50.0	9.1
Average	46.7	40.0	50.0	54.5
Low	26.6	50.0	0.0	36.4
	100.0%	100.0%	100.0%	100.0%

There are also certain differences in lessons taught according to program format. (See Table 27.) A free choice format is significantly higher in consideration for rights and feelings of others, and is also high in creativity and experimentation. The teacher-directed formats are high in control and restraint and rules of social living, two areas in which free choice formats tend to be low. The free play format is notably higher on self-sufficiency than the teacher-directed/free play format.

TABLE 27

RELATIONSHIP BETWEEN LESSONS TAUGHT AND PROGRAM FORMAT

LESSONS TAUGHT (N=50 centers)	PROGRAM FORMAT Free play (N=15)	Free choice (N=10)	Tch-dir/ free play (N=14)	Tch-dir. (N=11)
Physical Skills				
Large muscle	0.7%	2.6%	1.6%	3.5%
Eye-hand coordination	3.9	0.3	4.6	8.2
Verbal-physical coordination	6.7	5.4	6.4	9.6
Social Skills				
Rules of social living	12.0	8.0	18.1	13.7
Dealing with other children	7.0	6.4	3.1	3.1
Consideration**	8.5	19.4	5.2	5.5
Intellectual Skills				
Formal skills*	8.5	10.2	18.1	12.8
Knowledge and awareness	10.3	11.1	6.8	8.6
Pleasure, awe and wonder	6.9	6.9	7.0	7.1
Self-Responsibility				
Self-sufficiency	12.6	9.0	4.0	8.5
Creativity & experimentation	8.1	12.1	5.5	7.0
Control and restraint	14.4	7.0	18.6	11.8
Dealing with strong emotions	0.2	1.3	0.5	0.6

Significant at ** .01, * .05 level (F ratio)

Teacher manner also varies by program format. Center ratings for teacher manner were determined by the following procedure. The ratings for all observations within each center were transformed into percentages for each of the possible categories. Points then were assigned on the basis of these percentages.

Sensitive		Friendly		Neutral	Insensitive	
0- 4%	0	Under 30%	0	no points	0- 3%	0
5-14	+1	30-50	+1		3- 6	-1
15-25	+2	Over 50	+2		7-15	-2
25-50	+3				Over 15	-3
Over 50	+4					

Centers with a total of -2 to 0 (none had -3) points were given a teacher manner rating of insensitive; those with +1 or +2, a neutral rating; those with a total of +3, a friendly rating; those with +4 or +5 points, a sensitive rating.

As shown in Table 28, free play formats are characterized by a relatively even distribution of teacher manner throughout the continuum from sensitive to insensitive. Centers with a free choice format have the largest percentage of sensitive teachers. Both of the teacher-directed formats have large percentages of teachers in the neutral and insensitive categories.

Each center was given a rating for tempo based on the percentage of observations which fell in each category of a 5-point continuum from lethargic to rushed. The criteria for classification were as follows:

> Relaxed. More than 50% of the observations in the center were within the lethargic and relaxed categories.

Average. More than 50% of the observations in the center were rated as average in tempo.

Stimulating. More than 50% of the observations in the center were rated as stimulating and rushed.

Unclassified. The center met none of the above criteria because tempo varied markedly during the day.

TABLE 28

RELATIONSHIP BETWEEN TEACHER MANNER AND PROGRAM FORMAT

CENTER RATING FOR TEACHER MANNER	PROGRAM FORMAT			
	Free play	Free choice	Tch-dir/ free play	Tch-dir.
(N=50 centers)	(N=15)	(N=10)	(N=14)	(N=11)
Sensitive	33.3%	70.0%	7.1%	9.1%
Friendly	20.0	0.0	14.3	18.2
Neutral	26.7	30.0	42.8	54.5
Insensitive	20.0	0.0	35.7	18.2
	100.0%	100.0%	100.0%	100.0%

Tempo appears to vary with program format. (See Table 29.) Free play formats are primarily variable (unclassified) in tempo. Free choice programs have a similar distribution with more centers in the "relaxed" category. Both of the teacher-directed formats have a sizeable percentage of centers in the average tempo category, and few centers classified as relaxed or stimulating.

TABLE 29

RELATIONSHIP BETWEEN TEMPO AND PROGRAM FORMAT

CENTER RATING FOR TEMPO	PROGRAM FORMAT			
	Free play	Free choice	Tch-dir/ free play	Tch-dir.
(N=50 centers)	(N=15)	(N=10)	(N=14)	(N=11)
Relaxed	13.3%	30.0%	7.1%	18.2%
Average	0.0	10.0	35.7	36.4
Stimulating	20.0	10.0	0.0	9.1
Unclassified	66.7	50.0	57.1	36.4
	100.0%	100.0%	100.0%	100.0%

Patterns of Teacher Behavior, Center Program and Program Format

The four patterns of teacher behavior and of center program which were described by the factor analyses do not coincide exactly with the four program formats. One can, however, identify certain patterns which are obviously related to program format.

Free Play. This format has consistently established itself as variable, especially in regard to encouragement, restriction, and teacher manner. It is high, among the formats, on non-communicative activity, care of physical needs, and lessons in self-sufficiency.

Free Choice. This format presents a more consistent picture. It is high on encouragement and low in restriction. Teacher leadership is active and directed primarily to individual children. Superficial involvement is probably not common; where it exists, it is likely to be indirect in style.

Teacher-Directed/Free Play. This format also appears relatively consistent. Restriction tends to be high; encouragement of the nonroutine type is low. Teacher leadership is active, and the educational approach is characterized by group activity. Involvement of a superficial nature is frequent as indicated by the high incidence of routine encouragement.

Teacher-Directed. This format, like free play, is somewhat variable. Encouragement is relatively low, but so is restriction. Teacher leadership is active, and educational activity is group-directed. Superficial involvement probably takes an active form.

Summary

Characteristics of teacher behavior have been described in this chapter, with particular attention to patterned variation in individual teaching styles as revealed by a factor analysis. Teachers clearly differ in their use of encouragement or restriction, in the extent to which they promote conformity to routine, in the extent to which they adopt an active teaching role directed toward the entire group of children, and in their emphasis on developing independence in children.

Because our major goal involves the description of program in day care centers, rather than the behavior of individual teachers, we have also analyzed patterns of center program, as these are reflected in the behavior of all teachers within the center and characterized by variation in the mode of presentation of activities (program format). The analysis of factors in center program has clarified the previously identified patterns of teacher behavior and added indices of teacher leadership and teacher involvement in centers. We have described two basic dimensions in the child-rearing environment of the day care center which appear to underlie the variations we have found: the first is a conception of the source of socialization as located either in adults as models and rule-enforcers, or within children as spontaneous and creative individuals; the second, teacher exercise of power, is indicated by the extent to which teachers take an active and involved role with children.

Program format is clearly associated with variations in teacher behavior within centers. The choice of format appears to set limits on the range of behavior available to teachers. Format is particularly crucial in establishing requirements, or lack thereof, for active teacher participation, and it also appears to be predictive of the extent to which teachers impose forms for behavior or seek to elicit them from children.

In the chapters which follow other predictors of program in day care centers will be examined. We will look successively at structural characteristics, staff attitudes, organizational characteristics (center size and sponsorship), and characteristics of the physical environment. Establishment of predictable relationships among variables will set the stage for our concluding chapters, which consider the quality of day care program.

CHAPTER V

PREDICTION: STRUCTURAL CHARACTERISTICS

Introduction

The variables which are presented in this section are called structural characteristics because they appear to form an inescapable matrix within which a teacher must function. We have hypothesized that certain characteristics have the effect of permitting the teacher more non-communicative activity, nonroutine encouragement, and neutral information exchange. Other characteristics we visualize as coercive, demanding from the teacher a higher level of activity, as indicated by communicative episodes, higher amounts of guidance, restriction, and teacher direction.

The structural characteristics which will be presented are type of activity setting, time of day, type of physical setting, number of children per adults, and age of children.

Activity Setting and Teacher Behavior

In the preceding chapter we discussed the mode of presentation of activities as the basis for program format. In this chapter we shall discuss these modes of presentation from another perspective, that of activity settings. An activity setting includes in its configuration people, physical space, and purpose. In this study the following activity settings were examined: those which are (1) optional and have been utilized to examine program formats in centers such as free play, free choice, teacher-directed group (stories, singing, etc.), and teacher-directed individuals (drawing, pasting); and (2) essential activity settings such as lunch, clean-up, toileting and nap time.

The activity setting within which a teacher performs her duties defines, by its nature, certain aspects of her behavior. Table 30 shows the categories of teacher behavior for five of the eight activity settings. Only those observations have been included in which the setting remained constant for the entire 20-minute observation period (which reduces the N for this table from 1604 to 911).

TABLE 30

CATEGORIES OF TEACHER BEHAVIOR BY ACTIVITY SETTING

(Figures are mean frequencies)

CATEGORIES OF TEACHER BEHAVIOR	TYPE OF ACTIVITY SETTING				
(N=911 observations)	Free play (N=292)	Free choice (N=221)	Tch-dir. group (N=208)	Tch-dir. indiv. (N=128)	Lunch (N=62)
Total episodes	67.4	77.4	84.5	90.5	93.4
Total communicative episodes	46.8	56.3	75.2	74.6	73.6
Non-communicative episodes	20.6	21.1	9.3	15.9	19.8
Encouragement to Individuals					
Supporting/extending	0.3	0.4	0.1	0.3	0.3
Responsive	7.2	9.2	4.5	7.8	3.7
Routine	3.8	6.1	5.4	8.1	7.2
Approval/nurturance	2.8	3.5	1.6	2.3	0.6
Total	14.1	19.2	11.6	18.5	11.8

TABLE 30 (CONT.)

CATEGORIES OF TEACHER BEHAVIOR	TYPE OF ACTIVITY SETTING				
(N=911 observations)	Free play (N=292)	Free choice (N=221)	Tch-dir. group (N=208)	Tch-dir. indiv. (N=128)	Lunch (N=62)
Teacher Direction to Individuals					
Teacher suggestion	1.6	3.8	6.9	8.4	0.9
Teacher approval	0.1	0.4	1.8	2.8	0.5
Total	1.7	4.2	8.7	11.2	1.4
Guidance to Individuals					
Direct	9.9	10.1	10.2	14.4	15.4
Indirect	1.4	2.1	1.9	2.8	2.5
Manipulative	0.3	0.3	0.5	0.5	1.3
Distraction/ redirection	0.3	0.5	0.3	0.2	0.2
Total	11.9	13.0	12.9	17.9	19.4
Restriction to Individuals					
Simple	3.4	3.8	3.7	4.2	4.5
Firm enforcement	0.4	0.4	0.4	0.4	0.5
Belittling/ disparaging	0.2	0.7	0.3	0.7	0.8
Total	4.0	4.9	4.4	5.3	5.8
Neutral to Individuals					
Information exchange	3.9	5.8	2.7	6.5	9.4
Care of physical needs	2.6	2.5	1.8	3.3	16.9
Total	6.5	8.3	4.5	9.8	26.3
Verbal Skills to Individuals					
Repetitive	0.5	0.1	0.4	0.2	0.2
Expressive	0.7	2.0	2.9	2.6	1.1
Interpretive	2.0	3.5	2.0	3.2	2.1
Informational	0.4	1.6	0.9	1.9	0.8
Total	3.6	7.2	6.2	7.9	4.2
Guidance to Groups					
Total	0.6	0.3	6.2	1.9	1.9
All routine encouragement	3.9	6.3	6.3	8.3	7.4
All nonroutine encouragement	12.0	14.4	9.1	11.4	4.7
All encouragement	15.9	20.7	15.4	19.7	12.1

TABLE 30 (CONT.)

CATEGORIES OF TEACHER BEHAVIOR (N=911 observations)	TYPE OF ACTIVITY SETTING: Free play (N=292)	Free choice (N=221)	Tch-dir. group (N=208)	Tch-dir. indiv. (N=128)	Lunch (N=62)
All guidance	14.1	14.7	20.3	21.1	21.8
All teacher direction	2.4	5.1	26.7	15.2	3.0
All restriction	4.6	4.6	5.7	6.1	6.1
All neutral	7.1	9.0	6.3	11.8	29.2
All verbal skills	3.8	8.1	18.4	10.4	5.5

Those settings which require a teacher to assume an instrumental role, such as teacher-directed group or individual activities or lunch, would be expected to have small percentages of non-communicative behavior. Encouragement is highest in free play and free choice settings, in which the teacher's participation is more optional and she can enter or withdraw as she chooses. The percentage of restriction remains fairly stable and appears to depend more on teacher style, although it is lowest during free play and free choice. Guidance shows the same pattern as restriction.

Certain behaviors are highly related to activity setting, such as neutral behavior during lunch time, and teacher direction during group activities. Emphasis on verbal skills reaches a peak with group activity settings, but is also high during free choice, a time in which teachers can introduce these skills into children's ongoing activities.

Activity Setting and Lessons Taught

Both the numbers and content of lessons taught vary with choice of activity setting. As might be expected, teachers are most frequently rated for lessons taught in a setting which requires their active participation. Table 31 shows, for each activity setting, the percentage of observations in which lessons taught were rated.

TABLE 31

LESSONS TAUGHT BY ACTIVITY SETTING

(In percentages)*

RANK OF LESSONS TAUGHT	TYPE OF ACTIVITY SETTING							
(N=978 observ.)	Free play (N=292)	Free choice (N=221)	Tch-dir. group (N=208)	Tch-dir. indiv. (N=128)	Juice, snack (N=18)	Lunch (N=62)	Nap, Quiet (N=20)	Clean-up, Toileting (N=29)
Rank #1	19.2%	33.5%	66.3%	48.4%	33.3%	40.3%	15.0%	27.6%
Rank #2	27.7	45.7	60.1	50.3	27.8	46.9	20.0	20.6
Rank #3	25.0	46.2	38.0	41.4	11.1	33.9	25.0	24.0

*Frequency of occurrence over Column N

It can be seen that nap time was the lowest in lessons taught, followed by free play. Teacher-directed activity settings were highest, followed closely by lunch--also essentially a teacher-directed activity. The percentage of lessons taught during free choice rises as rank number decreases. This increase appears to be an indication of the frequency with which teachers respond to individual children. Much teacher behavior is instructive though not the major theme of the 20-minute period. Again the reader must remember that children learn many things from free exploration of a rich environment, so that one cannot assume that a free play period is necessarily devoid of learning experiences for children.

The relationship between activity setting and type of lessons taught is shown in Table 32. In this table activity settings have been placed under two headings, essential or optional. Routines found in all day care centers are considered essential. The numbers for these activities are relatively small, because only those essential settings are included here, which lasted throughout a 20-minute observation. (This requirement in itself may give a somewhat distorted picture of juice time, clean-up, and nap time, since in the majority of centers these activity settings did not cover a full observation.) Such activity settings rate relatively high on social skills and self-responsibility, with particular emphasis on rules of social living, consideration, self-sufficiency, and control and restraint.

Activity settings classified as optional are offered at the discretion of the director or teacher. Of these, free play and free choice both rate high on percentages of lessons taught in the areas of social skills and self-responsibility, while teacher-directed activity settings tend to the opposite pole with emphasis on intellectual and physical skills.

TABLE 32

LESSONS TAUGHT BY ACTIVITY SETTING

(Weighted, Rank #1, 2, 3)

LESSONS TAUGHT	OPTIONAL				ESSENTIAL			
	Free play	Free choice	Tch-dir. group	Tch-dir. indiv.	Juice, snack	Lunch	Nap, quiet	Clean-up, toileting
(N = 978 observations)	(N=292)	(N=221)	(N=208)	(N=128)	(N=18)	(N=62)	(N=20)	(N=29)
Physical Skills								
Large muscle	6.0%	1.3%	3.5%	0.8%	0.0%	0.0%	0.0%	0.0%
Eye-hand coordination	0.5	1.0	2.3	22.2	0.0	1.4	0.0	0.0
Verbal-physical coordination	2.0	2.7	18.4	0.8	0.0	0.0	0.0	2.3
Social Skills								
Rules of social living	12.0	11.0	9.6	6.2	16.7	41.9	22.7	6.9
Dealing with other children	13.6	9.7	1.5	2.4	0.0	0.0	0.0	9.3
Consideration	11.7	19.6	1.9	4.6	20.0	14.9	0.0	21.0
Intellectual Skills								
Formal skills	0.0	5.9	19.8	21.7	16.7	2.0	0.0	0.0
Knowledge and awareness	2.5	2.5	14.7	3.0	3.3	0.7	0.0	0.0
Pleasure, awe and wonder	5.5	3.4	11.3	4.9	0.0	0.7	0.0	0.0
Self-Responsibility								
Self-sufficiency	14.1	8.2	2.6	3.5	0.0	16.2	22.7	30.2
Creativity and experimentation	10.4	17.7	1.9	11.9	13.3	0.0	0.0	0.0
Control and restraint	11.2	5.2	9.4	11.9	30.0	14.2	50.0	16.3
Dealing with strong emotions	1.2	0.8	0.0	0.3	0.0	0.0	4.5	0.0
Can't Decide	9.4	11.4	3.2	5.7	0.0	8.1	0.0	14.0
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

(Actually, the physical skills emphasized might be more accurately viewed as a form of intellectual activity.)

It appears that activity settings revolving around physical needs (i.e., essential) offer opportunities for children to learn both self-sufficiency and the ways of the culture as reflected by rules of social living. Free play apparently offers many opportunities for experimentation in getting along with peers, but a minimum of intellectual stimulation through interaction with teachers. Free choice, while similar in emphasis to free play, rates higher in lessons which draw the teacher into a closer personal relationship with the child, such as consideration and creativity and experimentation. The opportunities for learning which an environment offers thus appear to depend in considerable part on the types of activity settings which are scheduled within the center.

Activity Setting, Tempo, and Teacher Verbalization

The pace of the program, and of the teacher as indicated by her talking, varies somewhat with activity. Table 33 shows the means (based on 5-point continua on which a score of 1 is low) for both of these factors according to activity.

It can be seen that free choice and free play usually move at a slower pace than do routine or teacher-directed activities. Teacher-directed activities characteristically move most rapidly.

TABLE 33

TEMPO AND TEACHER VERBALIZATION BY ACTIVITY SETTING

ACTIVITY SETTING (N=978)	MEAN TEMPO	MEAN TEACHER VERBALIZATION
Free play	2.7	2.4
Free choice	2.6	2.4
Teacher-directed group	3.3	3.2
Teacher-directed individual	3.0	2.9
Juice, snack	2.6	2.5
Lunch	2.6	2.7
Nap, quiet	1.9	1.6
Clean-up, toileting	2.8	2.7

Activity Setting and Teacher Manner

Ratings on teacher manner are also related to type of activity setting. Free choice appears to be associated with ratings of sensitive teacher manner. Lunch and other routines are associated with relatively large percentages of irritable teacher manner, while free play resembles the pattern set by the two activities requiring teacher direction with the majority of observations characterized as friendly or neutral in teacher manner. (See Table 34.)

Summary

In summary, teacher behavior can be substantially predicted by type of activity. This relationship is particularly strong for the categories of teacher direction and neutral behavior; it is found to a lesser extent for encouragement, restriction, and guidance. Activity settings which are strongly task-oriented, such as those related to essential routines or teacher-directed individual activity, evoke higher amounts of guidance and restriction. Activity settings categorized as essential routines emphasize conformity to social demands as reflected in lessons on control and restraint and rules of social living. Free play and free choice, which do not involve adult-established tasks, are high in the remaining lessons in social skills. The two teacher-directed activity settings emphasize intellectual attainment.

TABLE 34

TEACHER MANNER BY ACTIVITY SETTING

TEACHER MANNER	ACTIVITY SETTING*							
	OPTIONAL ACTIVITY				ESSENTIAL ACTIVITY			
(N=978 obs.)	Free Play (N=292)	Free choice (N=221)	Tch-dir. group (N=208)	Tch-dir. indiv. (N=128)	Juice, snack (N=18)	Lunch (N=62)	Nap, quiet (N=20)	Clean-up, toilet (N=29)
Sensitive	11.3%	21.3%	14.9%	11.7%	16.7%	9.7%	5.0%	3.5%
Friendly	46.9	45.2	51.0	43.0	50.0	33.9	30.0	48.3
Neutral	38.4	32.6	31.2	41.4	27.8	48.4	65.0	37.9
Irritable, sharp	3.4	0.9	2.9	3.9	5.6	8.1	0.0	10.3
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*Frequency of occurrence over Column N

Although teacher manner tends to be somewhat more sensitive during activities which place fewer demands on the teacher, these differences are slight. Essential settings evoke somewhat more insensitive ratings than those which are optional.

Time of Day

Although the average day care center is open from 10 to 12 hours a day to accommodate the range in working hours of parents, neither all teachers nor all children remain in the center from its opening to closing. Typically, children are arriving for several hours from the time of opening until about 9:00 A.M. or 9:30 A.M., and will be leaving, one by one, from about 4:00 P.M. to 6:00 P.M. Consequently teacher schedules are adjusted to fit the variable number of children, so that teachers who arrive early, leave early and vice versa.

Program must be designed to fit the flexible early morning and late afternoon hours as well as the required lunch and nap periods. These exigencies tend to divide the day into segments, as follows:

Opening to approximately 9:00 A.M.,
Approximately 9:00 A.M. to lunch,
Lunch and nap,
Late afternoon to closing.

It is only during the mid-morning and lunch time that the full complement of staff and children is present.

Activity setting and time of day are interrelated. Essential settings occur only at specified times (i.e., lunch, nap) but optional settings which determine program format in centers vary by time of day.

Among optional settings, teacher-directed activities occur more than twice as often during the mid-morning period than at other times. Free choice predominates in the early morning while free play rises markedly in the late afternoon.

(See Table 35.)

TABLE 35

OPTIONAL ACTIVITY SETTINGS BY TIME OF DAY

ACTIVITY SETTING	TIME OF DAY		
	Before 9:00 A.M.	9:00 A.M. thru lunch	End of nap to 6:00 P.M.
(N=847 observations)	(N=137)	(N=586)	(N=124)
Free play	29.9%	31.4%	53.2%
Free choice	48.9	21.0	25.0
Teacher-directed group	10.9	30.0	12.9
Teacher-directed individual	10.2	17.6	8.9
	100.0%	100.0%	100.0%

We examined categories of teacher behavior during the time segments described and found that they also vary significantly by time of day. The amount of teacher activity (as indicated by total episodes) appears to increase from an early morning low to a peak in the middle of the day and then return after nap period to a pattern similar to that of the morning hours. Teacher direction and emphasis on verbal skills are highest during the main morning activity period. Encouragement does not drop at the end of the day, nor does simple restriction rise. Firm enforcement of limits always is low, but it does increase by the end of the day. (See Table 36.)

Time of day also has a marked effect on numbers of lessons taught. The percentage of lessons taught (incidence divided by total observations) is approximately 27 percent for both early morning and late afternoon as compared to approximately 42 percent for the mid-morning and lunch period. (See Table 37.) Content of lessons did not vary markedly by time of day except for the strong lunch time emphasis on social skills and, to a lesser degree, on self-sufficiency, and the concentration of teaching of formal skills into the mid-morning period.

TABLE 36

CATEGORIES OF TEACHER BEHAVIOR BY TIME OF DAY*

(Figures are mean frequencies)

CATEGORIES OF TEACHER BEHAVIOR	TIME OF DAY			
(N=1604 observations)	Before 9:00 A.M. (N=190)	9:00 A.M. to lunch (N=1105)	Lunch pre-nap (N=108)	End of nap to 6:00 P.M. (N=201)
Total episodes	72.5	85.0	94.0	76.8
All nonroutine encouragement	11.6	10.2	5.2	12.1
All teacher direction	5.4	12.7	4.3	6.1
All direct guidance	12.3	16.9	18.9	14.3
All simple restriction	3.4	5.1	5.5	4.1
All firm enforcement	0.4	0.5	0.5	0.7
All information exchange	5.3	6.3	9.7	6.3
All care of physical needs	2.9	4.1	16.3	3.7
All verbal skills	7.1	10.8	6.5	7.3

* Only relationships significant at .01 level (F ratio) are shown.

Teacher manner appears to remain relatively stable throughout the day (see Table 38), although the lunch and pre-nap period has fewer ratings of sensitive or friendly teacher manner. Teacher manner appears to hold up well in the late afternoon as indicated by continuing steady ratings

TABLE 37

LESSONS TAUGHT BY TIME OF DAY

(Primary lessons only--figures are mean frequencies)

LESSONS TAUGHT	TIME OF DAY			
	Before 9:00 A.M.	9:00 A.M. to Lunch	Lunch Pre-nap	End of nap to 6:00 P.M.
(N=1604 observations)	(N=190)	(N=1105)	(N=108)	(N=201)
Physical Skills				
Large muscle	1.1	1.0	0.9	0.0
Eye-hand coordination	0.5	1.4	0.0	0.5
Verbal-physical coordination	1.1	2.8	0.0	0.5
Social Skills				
Rules of social living	3.2	2.7	10.2	4.5
Dealing with other children	0.5	0.6	0.0	2.5
Consideration	5.8	3.3	4.6	1.0
Intellectual Skills				
Formal skills	1.6	6.0	0.9	0.5
Knowledge and awareness	0.5	4.2	0.9	2.5
Pleasure, awe and wonder	0.5	2.9	0.0	2.0
Self-Responsibility				
Self-sufficiency	3.7	2.4	7.4	1.5
Creativity and experimentation	0.5	2.3	0.0	2.5
Control and restraint	0.0	4.4	3.7	1.5
Dealing with strong emotions	0.0	0.0	0.0	0.0
Can't Decide	8.4	8.8	13.0	7.0
Percentage of Lessons Taught (Total)	27.4	42.8	41.6	26.5

in these categories. It must be kept in mind that teachers in late afternoon often are extra teachers, such as college students who fill in for two or three hours.

TABLE 38

TEACHER MANNER BY TIME OF DAY

TEACHER MANNER	TIME OF DAY			
	Before 9:00 A.M.	9:00 A.M. to Lunch	Lunch pre-nap	End of nap to 6:00 P.M.
(N=1604 observations)	(N=190)	(N=1105)	(N=108)	(N=201)
Sensitive	14.7%	14.6%	13.9%	14.9%
Friendly	50.0	44.9	36.1	48.3
Neutral	34.7	36.8	42.6	32.3
Irritable, sharp	0.5	3.7	7.4	4.5
	100.0%	100.0%	100.0%	100.0%

Type of Physical Setting

Throughout the study, we coded each observation as indoor or outdoor and noted whether the setting was crowded or roomy. If the setting was judged to be neither of these it was coded only as indoor or outdoor. This classification of physical setting proved to be much too simple, in that it reveals nothing about how effectively the space functions. The relationship of space to program will be discussed more fully in Chapter VIII. However, these data do indicate certain trends in teacher behavior which appear to be determined by environmental factors. (See Table 39.)

Teachers appear to be most active in indoor settings, especially in regard to teacher direction. Crowded settings

TABLE 39

CATEGORIES OF TEACHER BEHAVIOR BY TYPE OF SETTING*

(Figures are mean frequencies)

CATEGORIES OF TEACHER BEHAVIOR	SETTING						
	Indoor	Indoor crowded	Indoor roomy	Outdoor	Outdoor crowded	Outdoor roomy	Outdoor-indoor
(N = 1604 observations	(N=633)	(N=122)	(N=133)	(N=332)	(N=54)	(N=144)	(N=186)
Communicative episodes	71.1	72.4	59.5	57.9	63.8	53.5	69.0
Non-communicative episodes	16.6	14.4	15.8	19.3	21.9	18.9	19.3
All nonroutine encouragement	9.1	9.3	8.6	12.1	10.7	13.4	10.1
All routine encouragement	7.3	5.9	4.4	5.9	4.6	4.0	4.5
All teacher direction	13.2	13.6	13.4	6.7	6.4	5.3	8.8
All guidance	22.2	23.4	17.4	16.9	21.7	15.2	25.5
All restriction	5.9	7.1	4.0	5.4	7.1	3.9	5.9
All information exchange	7.0	7.1	5.7	5.5	7.2	5.5	6.2
All care of physical needs	5.4	5.6	4.6	3.0	5.3	3.4	6.1
All verbal skills	11.0	11.8	9.2	8.3	6.3	6.7	9.5

* Only relationships significant at .01 level (F ratio) are shown

appear to increase the amount of guidance and restriction. Roomy settings are associated with a decrease both in teacher-child interaction and in numbers of communicative episodes. Nonroutine encouragement is higher in outdoor settings especially those rated as roomy. Routine encouragement appears to decrease in roomy settings.

Number of Children per Adult

We examined the effect of the number of children per adult on teacher behavior, since it is widely assumed that small groupings are superior to large ones. (See Table 40.)

TABLE 40

TEACHER BEHAVIOR BY NUMBER OF CHILDREN PER ADULT

(Figures are mean frequencies)

CATEGORIES OF TEACHER BEHAVIOR	NUMBER OF CHILDREN PER ADULT				
(N=1301 observations)*	4 or less (N=48)	5 - 9 (N=652)	10-14 (N=495)	15-19 (N=66)	20 or more (N=40)
Communicative episodes	49.5	65.8	68.4	70.0	59.3
All encouragement	14.4	16.4	15.0	16.6	15.7
All guidance	13.7	20.2	22.4	21.7	16.9
All restriction	3.0	5.5	6.4	5.7	4.7

* Observations in which numbers were indeterminate or variable have been omitted from the original N of 1604.

As can be seen from the table, our sampling is somewhat limited since almost all of our groups fall within the size range of five to fourteen children. (The licensing code prescribes one adult for fifteen children.)

Our data show few relationships of teacher behavior to group size. This lack may be due to our poor choice of cutting points for group size. However, as the study progressed we began to feel, and other data appear to support this view, that the organization of space, program format, and deployment of teachers are more important than variations of group size which are permitted within the limits of the licensing code.

The amount of teacher communicative activity appears to rise slowly as group size increases and then drops once the size exceeds nineteen. At this point it is probable that a group must be essentially self-regulating without constant teacher attention, or it will be unmanageable.

There do seem to be certain relationships between numbers of adults to children and type of activity setting, especially free choice. Two-thirds of all free choice occurs in a group size of five to nine children or in a group where the size is variable. The variability of group size is caused primarily by children entering and leaving the activity for which the teacher is responsible, a characteristic of many free choice settings. (See Table 41.)

Group size is related not only to the type of activity, but also to the age of children. This relationship will be discussed in the section which follows. These entanglements, plus our limited sample of group size, obscure any clear relation between lessons taught and numbers of adults to children.

TABLE 41

NUMBER OF CHILDREN PER ADULT BY TYPE OF ACTIVITY

NUMBER OF CHILDREN PER ADULT	TYPE OF ACTIVITY SETTING			
(N=849 observations)	Free play (N=292)	Free choice (N=221)	Tch-dir. group (N=208)	Tch-dir. indiv. (N=128)
4 or less	2.7%	6.8%	2.9%	3.1%
5 to 9	40.2	38.0	38.1	54.7
10 to 19	36.3	21.3	39.4	32.0
20 or more	4.1	1.8	6.7	0.0
Indeterminate	3.8	3.6	0.5	0.0
Variable	13.0	28.5	12.5	10.2
	100.0%	100.0%	100.0%	100.0%

Age of Children

Teacher behavior shows some slight differences according to age of children. The amount of total communication, individual guidance, and neutral behavior toward individuals appears to decrease as age of children increases. Group guidance increases slightly with age. Where age grouping is not practiced, total communication and group guidance appear to be lower.

Our age groupings are not precise because they varied among centers. Twos usually meant two-year-olds and young threes. Threes did refer to three-year-olds, fours to fours and/or young fives. (See Table 42.)

TABLE 42

CATEGORIES OF TEACHER BEHAVIOR BY AGE OF CHILDREN

(Figures are mean frequencies)

CATEGORIES OF TEACHER BEHAVIOR	AGE OF CHILDREN			
(N=1604 observations)	Twos (N=375)	Threes (N=207)	Fours (N=348)	Ungrouped (N=674)
Communicative episodes	68.4	67.9	65.9	62.8
Encouragement to individuals	14.8	13.7	13.8	14.8
Teacher direction to individuals	5.1	5.8	5.6	4.5
Guidance to individuals**	18.5	17.1	14.1	15.1
Restriction to individuals	5.2	5.1	4.1	4.7
Neutral to individuals**	11.8	10.1	8.7	8.4
Verbal skills to individuals	5.6	5.9	5.6	6.2
Guidance to groups**	2.3	2.8	3.1	1.9

** .01 level of significance (F ratio)

Differences in lessons taught by age are slight, although the youngest children appear to receive more instruction in rudiments of group living as indicated by lessons in control and restraint and rules of social living. Four-year-olds receive more instruction in formal skills and knowledge and awareness. Observations rated as ungrouped by age often are outdoor free play and, therefore, rate lower in over-all percentage of lessons taught although they are high on lessons in consideration. (See Table 43.)

TABLE 43

LESSONS TAUGHT BY AGE OF CHILDREN

(Primary lessons only--figures are mean frequencies)

LESSONS TAUGHT	AGE OF CHILDREN			
	Twos	Threes	Fours	Ungrouped
(N=1604 observations)	(N=375)	(N=207)	(N=348)	(N=674)
Physical Skills				
Large muscle	0.3	1.9	1.7	0.3
Eye-hand coordination	1.6	0.5	1.7	0.6
Verbal-physical coordination	3.2	1.4	2.9	1.3
Social Skills				
Rules of social living	4.5	1.9	3.7	3.3
Dealing with other children	1.1	0.0	0.9	0.9
Consideration	2.9	2.4	3.2	4.1
Intellectual Skills				
Formal skills	3.2	4.8	8.6	2.8
Knowledge and awareness	2.4	4.3	6.3	2.1
Pleasure, awe and wonder	1.9	3.4	2.0	2.4
Self-Responsibility				
Self-sufficiency	4.0	2.4	3.2	1.9
Creativity and experimentation	1.3	3.9	2.6	1.3
Control and restraint	6.4	2.4	4.0	1.9
Dealing with strong emotion	0.0	0.0	0.0	0.0
Can't Decide	8.5	12.6	5.2	9.6
Total Lessons Taught	41.3	42.0	46.0	32.5

Teacher manner does not vary markedly with age, although two-thirds of the teachers of two-year-olds are rated as sensitive or friendly, in comparison to 51 percent for the middle group and 61 percent for the older children. (Table not shown.)

Age of children is not independent of adult-child ratio. Table 44 indicates a strong tendency for younger children to be placed in groups of smaller size.

TABLE 44

NUMBER OF CHILDREN PER ADULT BY AGE OF CHILDREN

NUMBER OF CHILDREN PER ADULT	AGE OF CHILDREN			
(N=1604 observations	Twos (N=375)	Threes (N=207)	Fours (N=348)	Ungrouped (N=674)
9 or less	72.5%	47.3%	38.7%	28.9%
10 - 14	18.4	43.9	45.5	26.3
15 or more	3.0	1.5	8.9	9.1
Indeterminate or variable	6.1	7.2	6.8	35.8
	100.0%	100.0%	100.0%	100.0%

Seventy-two percent of all our observations of two-year-olds were in groups of nine or fewer children. This interrelationship of small group size and age of children probably obscures the effect of both age and grouping on other variables. Younger children apparently evoke more guidance and restriction from adults because they are inexperienced and lack skills necessary for living with other children. Since these also are the children most often found in small groups, one cannot expect to find guidance and restriction drop as group size decreases.

Summary

In this section we have discussed the effects of structural characteristics upon teacher behavior. These characteristics are varied, but they tend to have one common feature--that of their effectiveness in structuring the behavior of the teacher. The presence of certain characteristics appears to be coercive, forcing the teacher into increased activity. Others appear as permissive, letting the teacher relax her activity level and withdraw or respond as she chooses.

The following characteristics seem to be relatively coercive and demanding of teachers: 1) activity settings which are essential, such as lunch and clean-up; 2) the time period during late morning and before lunch; 3) settings which are crowded, either indoor or outdoor; 4) group size from ten to nineteen children, especially 5) if the group is composed of twos or threes.

Other characteristics are optimal from the viewpoint of offering the teacher wider latitude in her choice of participation or withdrawal. These include: 1) activity settings which are optional, especially those of free play and free choice; 2) early morning or late afternoon--times when not all children are present; 3) settings which are not crowded, especially roomy outdoor settings; and 4) group size of nine or smaller, 5) composed of 4-year-olds or ungrouped.

The type of settings which were first characterized demand active participation by the teacher, regardless of her skill. The second type permit a teacher to be more inactive if she chooses. Other factors which appear to influence the teacher's style of participation will be discussed in the sections which follow.

CHAPTER VI

PREDICTION: ATTITUDES AND OTHER CHARACTERISTICS OF STAFF

Attitudes of Staff

Both the role of teacher and that of director imply a strong management function. Throughout the day teachers and directors must constantly make decisions about what is to be done and in what manner. These decisions, we assume, usually are not haphazard, but are based on certain aspects of a person's underlying value system. Furthermore, we have assumed that the nature of these decisions is reflected in teacher behavior, and that the sum of staff decisions determines the character of center program.

This consistency in decision-making will be called style of leadership. Basic attitudes underlying leadership style are conceived to be focused on the valuation of adult authority and warmth in dealing with children. In addition, the teacher has a concept of role which includes hope for children's experiences and definition of her own responsibility. These attitudes should be predictive of her behavior..

Teacher performance within the center reflects not only each teacher's own attitudes, but also her interaction with other staff members, primarily the director. A center is expected to operate in a somewhat integrated fashion; consequently, the director leadership style and role concept should be predictive of both teacher attitudes and teacher behavior. Further, an individual's choice of leadership style and concept of role is not considered to be entirely idiosyncratic, but is expected to bear some relationship to such personal characteristics as amount of experience, general education, and special training.

In this chapter we shall describe teachers' leadership styles and role concepts, and examine the relationship of teacher performance to these same characteristics of directors. Finally we shall relate these attitudinal measures to other selected characteristics of staff.

Leadership Style

Attitudes toward Authority

To examine teachers' and directors' attitudes toward authority we followed an approach developed by Miller and Swanson (1960, pp. 80-81). These authors assumed that from parental attitudes toward obedience one could infer an underlying general attitude toward authority. To measure attitudes they used a two-part question (1) "How important do you feel it is for a child to obey? (2) Why do you feel this way?"

We rated teachers' and directors' responses to the first question, according to Miller and Swanson's procedure, on a 5-point continuum from low to high as follows: (1) does not expect obedience, (2) insists on obedience in only a few things, (3) values obedience but makes some concessions to child's needs, (4) expects obedience because adults know what is right, (5) expects blind obedience. On the second question, teachers and directors who regarded obedience as a situational necessity rather than as a value in itself, and who were concerned with maintaining the child's integrity through mutual participation in decisions, were rated as permissive; those who emphasized the autonomy of the child, but also specified areas in which the child must obey were rated as conservative; those who emphasized that the child _must_ conform, saw obedience as a duty and the child as subservient, were rated as authoritarian.

On the basis of these two ratings teachers and directors were then assigned to one of two categories, situational[1] or arbitrary requests for obedience, depending on their answers to both parts of the question. An assignment to the "situational" category was made for a rating of 1, 2 or 3 on expectations for obedience and permissive or conservative on reasons for obedience. Those categorized as "arbitrary" were rated 4 or 5 on expectations and authoritarian on reasons for obedience. Because analysis of data revealed further distinction between permissive and conservative within the situational category, data will be reported to show this breakdown.

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[1] Miller and Swanson (1960) use the term "explained," but we felt situational is a more meaningful label for the purposes of this study.

Examples of responses in each category are given below:

Situational: Permissive

> Children have their own needs and wants--even adults find it hard to obey. I work with them and show them why it is needed. You almost have to leave it up to them. If it's a real problem, you need to examine it.
>
> There are certain things which children need to do like wash before eating. They cannot always have a choice of where to play, but our demands are few and our time limits are wide. We try to keep relaxed and flexible.

Situational: Conservative

> It's necessary to conform to a certain amount. You have to have some obedience. I'm old enough to believe in that. I feel that they want to and I try to prepare them for it.
>
> It's important, but they can't always be conformists. They will learn in time with disapproval or approval to follow directions.

Arbitrary

> In general 100%, if they learn to obey in minor things they will learn to obey in major things. It is very important that we obey all rules always --both adults and children.
>
> It is very important! What they learn now will stick for the rest of their lives. All people are under some supervision in society. They need to learn to take discipline.

Attitudes toward Warmth

In a previous study (Prescott, 1964, 1965) measured attitudes toward warmth, that quality of friendly responsiveness which appeared to be strikingly present or absent in centers, according to teacher and director answers on the following questions concerning affection and dependency (adapted from Sears, 1957):

> How do you feel about a teacher holding children or hugging them or showing affection?
>
> How do you handle it when a child sticks close and demands attention?

Answers to each question were coded on a three-point continuum from 1 (permissive) to 3 (not permissive). A teacher was rated as high in warmth if she was rated as 1 (permissive) on one question and no less than 2 (moderately permissive) on the other, making a total score of 3 points or less. Teachers were rated as low in warmth if the combined scores for both questions totaled four points or more. An example of high warmth would be the following answer:

> Affection
>
> I think it's wonderful--everyone needs it.
>
> Dependency
>
> Keep him close, he needs it. Make him feel secure, redirect without pushing him away.

This teacher's position is not quite so clear, but she was rated high in warmth.

> Affection
>
> I think some affection should be shown to all children; especially you must have time and patience if they want to stop and talk to you.
>
> Dependency
>
> If they are new we go along with it, after that I try to interest them in something until they know Mommy always comes. You have to go along with them.

This teacher was rated as low in warmth:

> Affection
>
> I don't like that at all. It is obnoxious to me.

> **Dependency**
>
> You have to put up with it a little. They do get away from it if you stop it as soon as possible.

This teacher was also rated low in warmth, although her attitude is more moderate.

> **Affection**
>
> Not too much, you love them, but you must even it up and treat the children the same.
>
> **Dependency**
>
> Make them all do the same thing, work in a group so there are no hurt feelings, not too much attention or affection to one another.

On the following pages, teacher attitudes and their relationship to teacher behavior are discussed. Director attitudes as predictors of day care program will be discussed separately following the material on teachers.

Relationship of Teacher Attitudes Toward Authority and Toward Warmth

Attitudes toward warmth are not independent of attitudes toward authority. Table 45 shows the interrelationship of these attitudes. Over 70 percent of the teachers who indicate a preference for situational authority also are rated high in warmth.

Warmth is highest when attitudes toward authority are most permissive. As emphasis on aribtrary authority rises, ratings on low warmth increase. Despite the relationship, however, nearly one-third of all teachers rated as favoring arbitrary authority also are rated as high in warmth.

Because of the marked association between attitudes toward authority and warmth one would expect to find similarities in behavior among teachers who favor situational authority and high warmth or, conversely, arbitrary authority and low warmth. This expectation, with few exceptions, is borne out by the data.

TABLE 45

RELATIONSHIP BETWEEN TEACHER ATTITUDES TOWARD AUTHORITY AND TOWARD WARMTH

TEACHER ATTITUDE TOWARD AUTHORITY	TEACHER ATTITUDE TOWARD WARMTH	
(N=104 teachers)	High (N=57)	Low (N=47)
Permissive	19.3%	2.1%
Conservative	52.6	27.7
Arbitrary	28.1	70.2
	100.0%	100.0%

Teachers and directors were asked an additional question concerning their expectations for children's behavior. The following question (taken from Sears, 1957) deals with their attitudes regarding aggressiveness of children toward adults:

> Sometimes a child will get angry at his mother or teacher and hit or kick her or shout angry things at her. How much of this sort of thing do you think adults ought to allow in a child of nursery age?

Responses were coded in three categories.

Acceptant

Respondent's first and basic concern is for the meaning of the child's behavior, his feelings and his growth.

Example: 'It's not a matter of allowing--you work with it when it happens. You don't stop the trouble by not allowing. There is a limit to how they express it--you don't allow a child to punish you.'

Tolerant

(a) Respondent's primary concern is for control through rechanneling expression of feelings, or (b) there is no mention of reasons for the behavior, but some permissiveness for aggression.

Example: 'It should be diverted. I encourage activity--give them a chance to exert some energy. I ignore in the beginning and then divert.'

Prohibitive

Respondent's entire concern is for control, with no mention of the reasons for behavior or desirability of rechanneling expression of feelings.

Example: 'I don't allow this at all. I don't spank, but I remove them immediately, mainly so as not to have the other children see.'

Table 46 shows the relationship between attitudes toward authority and warmth and toward aggression to adults. Teachers who favor arbitrary authority and low warmth also tend to prohibit any demonstration by children of aggressiveness to adults.

Teacher Attitudes Toward Authority and Warmth as Predictive Variables

Table 47 shows the relationship of teacher behavior to teachers' attitudes toward authority and warmth, Teachers favoring situational authority are characterized by high responsive encouragement and low restriction of the belittling type. They also exhibit somewhat more neutral behavior, indicating exchange of information.

TABLE 46

RELATIONSHIP OF TEACHER ATTITUDE TOWARD AGGRESSION TO ATTITUDES TOWARD AUTHORITY AND WARMTH

ATTITUDE TOWARD AGGRESSION	TEACHER ATTITUDES				
	ATTITUDE TOWARD AUTHORITY			WARMTH	
	Situational		Arbitrary	High	Low
	Permissive	Conservative			
(N=104 teachers)	(N=12)	(N=43)	(N=49)	(N=57)	(N=47)
Acceptant	16.7%	27.9%	2.0%	22.8%	4.3%
Tolerant	58.3	58.1	46.9	57.8	46.8
Prohibitive	25.0	13.9	51.0	19.3	48.9
	100.0%	100.0%	100.0%	100.0%	100.0%

Teachers favoring arbitrary authority rate lower in all types of encouragement and higher in use of belittling/disparaging restriction. Interestingly, they also exhibit less teacher direction, less neutral activity, and less guidance (although not significantly so). Their fostering of verbal skills is lower than for the conservative group and resembles that of the permissive teachers.

Within the group favoring situational requests, certain differences can be noted. Those rated conservative rank highest in every category of encouragement. Those rated permissive seldom use teacher approval.

TABLE 47

TEACHER BEHAVIOR BY TEACHER ATTITUDES TOWARD AUTHORITY AND WARMTH

(Figures are mean frequencies based on 10 observations per teacher)

CATEGORIES OF TEACHER BEHAVIOR	TEACHER ATTITUDES				
	ATTITUDE TOWARD AUTHORITY			WARMTH	
	Situational		Arbitrary	High	Low
	Permissive	Conservative			
(N = 104 teachers)	(N=12)	(N=43)	(N=49)	(N=57)	(N=47)
Communicative episodes	60.5	74.0	65.7	69.3	68.9
Non-communicative episodes	22.8	16.6	17.4	17.1	17.2
Encouragement to Individuals					
Supporting/extending	0.2	0.2	0.2	0.3	0.2
Responsive	6.5	7.3	4.7	7.2	4.6
Routine	5.6	6.7	5.5	5.9	6.0
Approval/nurturance	2.1	2.5	1.8	2.6	1.5
Total	14.4	16.8	12.2	16.0	12.3
Teacher Direction to Individuals					
Teacher suggestion	3.2	5.2	4.4	4.4	4.9
Teacher approval	0.5	1.5	1.3	1.0	1.6
Total	3.7	6.7	5.7	5.4	6.5
Guidance to Individuals					
Direct	13.6	13.8	13.2	13.5	13.5
Indirect	2.5	2.8	2.0	2.6	2.0
Manipulative	0.3	0.5	0.5	0.4	0.6
Distraction/redirection	0.4	0.4	0.3	0.4	0.3
Total	16.7	17.5	16.0	16.9	16.4

TABLE 47 (CONT.)

CATEGORIES OF TEACHER BEHAVIOR	TEACHER ATTITUDES				
	ATTITUDE TOWARD AUTHORITY			WARMTH	
	Situational		Arbitrary	High	Low
	Permissive	Conservative			
Restriction to Individuals					
Simple	4.3	4.1	4.5	3.5	5.2
Firm enforcement	0.4	0.4	0.5	0.4	0.5
Belittling/disparaging	0.2	0.2	0.6	0.2	0.5
Total	4.8	4.7	5.6	4.1	6.2
Neutral to Individuals					
Information exchange	5.7	5.8	4.5	5.6	4.7
Care of physical needs	5.4	5.1	4.6	4.9	4.8
Total	11.1	10.9	9.0	10.5	9.5
Verbal Skills to Individuals					
Repetitive	0.1	0.2	0.2	0.2	0.2
Expressive	1.2	2.3	1.9	2.0	1.9
Interpretive	3.0	3.4	2.5	3.3	2.5
Informational	0.9	1.5	1.1	1.3	1.1
Total	5.2	7.4	5.6	6.8	5.7
Total Behavior Directed to:					
Individuals	50.7	56.6	48.5	52.9	50.9

Significance levels indicated in Table 48

High warmth is positively related to responsive encouragement and approval/nurturance. It is negatively related to simple restriction and total restriction. Significant differences also appear in other categories, but not to such a marked degree.

Table 48 summarizes the important relationships between categories of teacher behavior and attitudes of warmth and of authority. Amount of routine encouragement and total teacher direction are affected by attitudes toward authority, but not warmth. On the other hand, teacher approval, manipulative guidance, simple restriction and total restriction are significantly related to attitudes toward warmth, but not authority.

Table 49 shows the relationship of lessons taught to attitudes of authority and warmth.

Both groups favoring situational authority rate high on creativity. Teachers permissive on authority rate highest for lessons in consideration for rights and feelings, also for self-sufficiency, and dealing with strong emotions. They are rated more frequently for teaching which is placed by observers in the can't decide category, probably indicating effective teaching on a less focused and perhaps more individual level. Teachers favoring arbitrary authority do not appear to place significantly more emphasis than others on rules of social living or on control and restraint (although the latter figure is slightly higher).

TABLE 48

SUMMARY: TEACHER BEHAVIOR BY TEACHER ATTITUDES TOWARD AUTHORITY AND WARMTH

CATEGORIES OF TEACHER BEHAVIOR	TEACHER ATTITUDES	
	AUTHORITY	WARMTH
Encouragement to Individuals		
Responsive	+**[2]	+**
Routine	+*	
Approval/nurturance	+*	+**
Total	+**	+**
Teacher Direction to Individuals		
Teacher approval	-	-*
Total	-*	-
Guidance to Individuals		
Indirect	+*	+*
Manipulative		-*
Restriction to Individuals		
Simple		-**
Belittling/disparaging	-**	-*
Total		-**
Neutral to Individuals		
Information exchange	-*	-*
Verbal Skills to Individuals		
Interpretive	-*	+**
Total	-**	+*

Significant at ** .01, * .05 level (F ratio)

[2] A + sign represents a positive correlation between the teacher behavior and situational authority or high warmth; a - sign signifies a negative correlation.

TABLE 49

LESSONS TAUGHT BY TEACHER ATTITUDES TOWARD AUTHORITY AND WARMTH

(Figures are mean frequencies)

LESSONS TAUGHT	TEACHER ATTITUDES				
	ATTITUDE TOWARD AUTHORITY			WARMTH	
	Situational		Arbitrary	High	Low
	Permissive	Conservative			
(N = 104 teachers)	(N=12)	(N=43)	(N=49)	(N=57)	(N=47)
Physical Skills					
Large muscle	0.1	0.8	0.4	0.7	0.7
Eye-hand coordination	0.3	0.7	1.5	0.7	1.5
Verbal-physical coordination	1.2	2.0	1.9	1.9	2.1
Social Skills					
Rules of social living	1.2	3.3	2.8	2.4	3.3
Dealing with other children	1.4	0.8	0.9	1.1	0.8
Consideration	4.9	2.2	1.2	3.1	0.8
Intellectual Skills					
Formal skills	2.3	2.7	3.8	2.8	3.8
Knowledge and awareness	1.9	2.1	2.0	1.9	2.3
Pleasure, awe and wonder	2.4	1.5	1.4	2.2	0.8
Self-Responsibility					
Self-sufficiency	5.0	2.0	1.5	2.4	1.7
Creativity and experimentation	2.8	2.4	1.1	2.5	0.9
Control and restraint	2.6	2.4	3.7	2.0	4.4
Dealing with strong emotions	0.4	0.1	0.1	1.6	0.0
Can't Decide	4.2	4.1	1.9	3.7	2.3

In general, attitudes toward warmth and toward authority predict similar differences in lessons taught. These differences may be summarized as follows. (See Table 50.) Lessons in dealing with other children, pleasure, awe and wonder, are sensitive to attitudes toward warmth, though not authority. Self-sufficiency, however, is more sensitive to authority than to warmth.

TABLE 50

SUMMARY: LESSONS TAUGHT BY TEACHER ATTITUDES TOWARD AUTHORITY AND WARMTH[3]

	TEACHER ATTITUDES	
LESSONS TAUGHT	AUTHORITY	WARMTH[4]
Dealing with other children		+
Consideration	+**	+
Pleasure, awe and wonder		+
Self-sufficiency	+**	
Creativity & experimentation	+**	+
Control and restraint	-	-
Dealing with strong emotions	+	+
Can't Decide	+	+

Significant ** .01 level (F ratio)

The relationship between leadership style and teacher manner as indicated in a sample of ten observations was examined. To do this a summary rating for teacher manner was made for all sample teachers according to the following procedure. Teachers were given 1 point for each sensitive rating, 2 points for friendly, 3 for neutral, and 4 points for a rating of irritable, sharp. The points which were accumulated for 10 observations by each teacher were totaled. Teachers were then ranked and divided into five groups on the basis of accumulated points. (Scores fell in such a way that five groups appeared preferable to four.) When this rating is utilized it will be called summary rating for teacher manner. (See Table 51.) Although the relationship is not absolute, it appears that teachers who describe their attitudes toward affection and dependency (warmth) as permissive and who also prefer situational authority are more often observed to be sensitive and friendly than are teachers who are less warm and more arbitrary. However, it is also apparent that some teachers rated low in expressed attitudes toward warmth and arbitrary in authority are not perceived by observers to be lacking in those behaviors characteristic of "warm" teachers.

---

[3] A + sign represents a positive correlation between the lessons taught and situational authority or high warmth; a - sign signifies a negative correlation.

[4] Significance levels not available for warmth.

Summary

Teachers who adopt a leadership style based on a preference for situational authority and high warmth contrast in a variety of ways with teachers who prefer arbitrary authority and low warmth. These two variables, authority and warmth, are most commonly found in the combinations just described. It is apparent that certain teacher behavior and lessons taught vary according to these attitudes. In general these differences parallel those described in Chapter IV as Pattern I, Encouragement-Restriction. At one extreme are teachers high in nonroutine encouragements and lessons in consideration, pleasure, awe and wonder, and creativity. At the other extreme are teachers high in restriction and lessons on rules of social living.

TABLE 51

TEACHER MANNER BY TEACHER ATTITUDES TOWARD AUTHORITY AND WARMTH

(Summary rating)

TEACHER MANNER	TEACHER ATTITUDES				
	ATTITUDE TOWARD AUTHORITY			WARMTH	
	Situational		Arbitrary	High	Low
	Permissive	Conservative			
(N=104 teachers)	(N=12)	(N=43)	(N=49)	(N=57)	(N=47)
Sensitive	41.7%	9.3%	10.2%	22.8%	2.1%
Friendly	25.0	23.3	12.2	28.1	6.4
Average	8.3	44.2	34.7	33.3	38.3
Moderately insensitive	16.7	20.9	18.3	12.3	27.7
Insensitive	8.3	2.3	24.5	3.5	25.5
	100.0%	100.0%	100.0%	100.0%	100.0%

In the next section we will discuss teachers' concept of role and its relationship both to leadership style and to observed behavior.

Concept of Role

We postulated that teacher behavior and teacher performance in centers would differ not only with leadership style, but also according to the conception of role held by both teachers and director. By role we had in mind what the teacher hoped to accomplish and what she conceived of as her major responsibility.

To get at the first dimension we asked the following question. "What do you hope that the children will get out of their experiences here?" During the pilot phase of this study answers appeared to pull toward one of two poles: (1) that which placed first and primary emphasis on the child and his development, or (2) that which placed primary emphasis on mastery of cultural demands, such as proper behavior and academic accomplishments. Answers were placed in one of five categories, according to the following criteria:

> Child-centered: Response emphasizes the child himself, communicating a deep, genuine concern for his growth and development of initiative and confidence.
>
> Semi child-centered: Response emphasizes emotional security, self-acceptance, pleasure in social adjustment. Some reference to the child's own feelings--security, happiness, etc.--must be included.
>
> Custodial: Response emphasizes keeping the child safe and healthy (and happy) without elaboration.
>
> Semi adult-centered: (a) Response emphasizes academic content or manners, with child's happiness mentioned, or (b) social adjustment stressed without reference to child's happiness.
>
> Adult-centered: Response emphasizes learning content without reference to children themselves; academic content, manners, conforming behavior.

These are some of the ways in which roles were described by respondents in this study.

Child-centered:

> That they learn to handle themselves, their minds and their bodies, that they have a good social experience and learn something about the mores of our society, but most of all that they have a feeling of self-awareness.
>
> [Pause] Expression--the ways of working out feelings, re-creating them and finding a position with other children.

Semi child-centered:

> It should be education suitable for their years --to get along, security, benefit emotionally, get onto routines easily.
>
> A social benefit--learn how to cope with things --enjoyment.

Custodial:

> They should be safe and happy--well taken care of.
>
> Keep them safe--well cared for.

Semi adult-centered:

> They will learn to play with other children--to cooperate, to follow directions.
>
> Main thing is to get along with other children.

Adult-centered:

> Learn to take directions, sit quietly, toilet training, songs and nursery rhymes if they are inclined.
>
> I'm trying to make them realize what a good citizen is--that's my main purpose.

The percentage of teachers in each category is as follows in Table 52.

Originally we had planned to base our criteria for role concept on answers to two questions. In addition to that described above we asked another question designed to elicit descriptions of the responsibility for performance which teachers and directors perceived. They were asked:

> What do you see as your most important job in working with the children (supervising the center)?

TABLE 52

ROLE CONCEPT OF TEACHERS

ROLE CONCEPT	TEACHERS (N=103)
Child-centered	18.4%
Semi child-centered	28.2
Semi adult-centered	33.0
Adult-centered	20.4
Custodial	0.0
	100.0%

We had anticipated that child-centered personnel would emphasize responsibilities related to needs of children or necessary administrative implementation, and that adult-centered personnel would describe the provision of teaching experiences and educational preparation of children. Our prediction was wrong. Instead, it was in answer to this question that personnel frequently gave a custodial response; i.e., to see that the children are safe and happy. (This reaction does emphasize the concern for children's safety in day care. Even normal accidents can cause unpleasant complications--not only personal, but legal.) According to our anticipated dual classification of role concept, 58.0 percent of the directors and 41.3 percent of the teachers would be classified as ambiguous, because of a combination of roles. Consequently, we have based concept of role solely on descriptions of hope for children's experiences.

We also examined answers to the question on hope for children's experiences for any insight which they might give as to specific expectations for educational achievement. Both the description of categories and educational expectations according to role concept are presented in Table 53.

TABLE 53

RELATIONSHIP OF TEACHER EDUCATIONAL EXPECTATIONS TO CONCEPT OF ROLE

EDUCATIONAL EXPECTATIONS OF TEACHER	TEACHER CONCEPT OF ROLE			
(N=103 teachers)	Child-centered (N=19)	Semi child-centered (N=29)	Semi adult-centered (N=21)	Adult-centered (N=34)
Low, does not mention educational expectations	78.9%	62.1%	71.4%	52.9%
Medium, does mention preparation for school	21.0	27.6	28.6	29.4
High, describes cognitive skills or specific curriculum	0.0	10.3	0.0	17.6
	100.0%	100.0%	100.0%	100.0%

Adult-centered personnel voice more specific expectations for mastery of cognitive skills or, at least, preparation for school. Both child-centered roles show much lower expectations in this area.

Relationship between Teacher Role Concept and Attitudes Toward Authority and Warmth

Type of role concept is related to teachers' attitudes toward both authority and warmth. (See Table 54.) Teachers who are most child-centered most often report permissive attitudes toward authority and high warmth. As teachers move toward an adult-centered role they also more frequently report arbitrary attitudes toward authority and low warmth. Attitudes of teachers who report a less clear-cut role (those in the "semi"-categories) are much less predictable.

TABLE 54

RELATIONSHIP OF TEACHER CONCEPT OF ROLE TO ATTITUDES TOWARD AUTHORITY AND WARMTH

TEACHER CONCEPT OF ROLE	TEACHER ATTITUDES				
	ATTITUDE TOWARD AUTHORITY			WARMTH	
	Situational		Arbitrary	High	Low
	Permissive	Conservative			
(N=103 teachers)	(N=12)	(N=43)	(N=48)	(N=57)	(N=46)
Child-centered	41.7%	27.9%	4.1%	31.6%	2.2%
Semi child-centered	41.7	32.6	20.8	35.1	19.6
Semi adult-centered	8.3	20.9	22.9	17.5	23.9
Adult-centered	8.3	18.6	52.1	15.8	54.3
	100.0%	100.0%	100.0%	100.0%	100.0%

Teacher Role Concept as a Predictive Variable

The most marked differences in teacher behavior according to role concept are found, as has been the case for other relationships, in the categories of encouragement and restriction. Child-centered teachers were observed to use the largest amount of nonroutine encouragement, adult-centered teachers the least. Conversely, child-centered teachers use the least restriction, adult-centered the most. Guidance appears also to vary by role; interestingly, the "semi" teachers are rated as using less guidance than teachers in the firmer roles. These teachers also use less firm enforcement of limits than either adult-centered or child-centered teachers. While the frequency of manipulative guidance is low, it appears to be associated with an adult-centered role. (See Table 55.)

The differences between the child-centered and adult-centered roles again stand out in lessons taught. Child-centered teachers are high in numbers of lessons in consideration, in self-sufficiency, in pleasure, in creativity and can't decide. Adult-centered teachers are low in these areas, but high in rules of social living, formal skills, and control and restraint. The "semi" groups appear to vary in an unpredictable pattern. (See Table 56.)

Teacher manner also varies with concept of role. Child-centered teachers often are rated as exceptionally sensitive, a rating seldom given to adult-centered teachers. Ratings for the two "semi" groups are nearly identical and fall between these extremes. (See Table 57.)

TABLE 55

TEACHER BEHAVIOR BY TEACHER CONCEPT OF ROLE

(Figures are mean frequencies)

CATEGORIES OF TEACHER BEHAVIOR	TEACHER CONCEPT OF ROLE			
(N=104 teachers)	Child-centered (N=20)	Semi child-centered (N=29)	Semi adult-centered (N=21)	Adult-centered (N=34)
Non-communicative episodes	19.5	17.2	16.8	15.7
Encouragement to Individuals				
Supporting/extending**	0.4	0.3	0.1	0.1
Responsive**	8.3	5.7	6.5	4.6
Routine	5.9	5.3	6.6	6.2
Approval/nurturance*	2.8	2.3	2.1	1.6
Total*	17.4	13.6	15.3	12.5
Teacher Direction to Individuals				
Teacher suggestion	4.0	4.4	4.9	4.9
Teacher approval	1.1	1.1	1.3	1.6
Total	5.1	5.5	6.2	6.5
Guidance to Individuals				
Direct	13.7	12.4	12.6	14.9
Indirect*	3.2	2.1	1.9	2.4
Manipulative**	0.3	0.3	0.4	0.8
Distraction/redirection*	0.6	0.2	0.3	0.3
Total*	17.8	15.0	15.2	18.4
Restriction to Individuals				
Simple**	3.8	3.4	3.6	5.8
Firm enforcement**	0.6	0.2	0.3	0.7
Belittling/disparaging**	0.3	0.3	0.1	0.6
Total**	4.7	3.9	4.0	7.1
Neutral to Individuals				
Information exchange	6.0	4.5	4.9	5.3
Care of physical needs	5.2	4.9	4.5	4.9
Total	11.2	9.4	9.4	10.2
Verbal Skills to Individuals				
Repetitive	0.1	0.2	0.3	0.2
Expressive	1.9	2.4	1.6	1.9
Interpretive	3.5	2.7	2.5	2.9
Informational	1.3	1.1	1.4	1.2
Total	6.8	6.4	5.8	6.2

Significant at ** .01, * .05 level (F ratio)

TABLE 56

LESSONS TAUGHT BY TEACHER CONCEPT OF ROLE[5]

(Figures are mean percentages)

LESSONS TAUGHT (N=103 teachers)	TEACHER CONCEPT OF ROLE Child-centered (N=19)	Semi child-centered (N=29)	Semi adult-centered (N=21)	Adult-centered (N=34)
Physical Skills				
Large muscle	1.4%	2.4%	3.7%	1.0%
Eye-hand coordination	1.7	2.3	5.4	5.6
Verbal-physical coordination	3.7	11.0	6.2	7.6
Social Skills				
Rules of social living	8.0	8.6	9.9	15.0
Dealing with other children	2.4	5.1	4.5	2.1
Consideration	9.9	11.0	8.2	3.5
Intellectual Skills				
Formal skills	8.2	11.8	10.9	16.5
Knowledge and awareness	8.2	5.9	11.9	6.3
Pleasure, awe and wonder	8.2	5.1	7.1	4.5
Self-Responsibility				
Self-sufficiency	8.9	10.7	8.5	4.6
Creativity and experimentation	12.1	6.8	7.4	2.6
Control and restraint	6.5	10.3	4.3	21.7
Dealing with strong emotions	0.2	0.7	0.6	0.0
Can't Decide	20.7	8.5	11.4	8.9
	100.0%	100.0%	100.0%	100.0%

---

[5] Significance levels not available

TABLE 57

TEACHER MANNER BY TEACHER CONCEPT OF ROLE

(Summary rating)

TEACHER MANNER	TEACHER CONCEPT OF ROLE			
(N=103 teachers)	Child-centered (N=19)	Semi child-centered (N=29)	Semi adult-centered (N=21)	Adult-centered (N=34)
Sensitive	31.5%	17.2%	9.5%	2.9%
Moderately sensitive	26.3	17.2	33.5	2.9
Neutral	21.1	41.4	33.3	41.2
Moderately insensitive	15.7	17.2	14.3	26.5
Insensitive	5.3	6.9	9.5	26.5
	100.0%	100.0%	100.0%	100.0%

Summary

Teachers who favor situational authority and high warmth also tend to be child-centered in their role concept. Conversely, teachers who favor arbitrary authority and low warmth tend toward an adult-centered concept of role. Only 40 percent of the teachers, however, described their role clearly and specifically as child- or adult-centered. These roles are representative of the opposite poles described in teacher pattern I, Encouragement-Restriction. A child-centered role is predictive of high encouragement and low restriction, lessons in consideration, pleasure, and creativity and sensitive teacher manner. An adult-centered role is predictive of opposite behaviors, and of emphasis on rules of social living, formal skills, and control and restraint.

Director Attitudes as Predictors of Day Care Program

Director Leadership Style and Teacher Performance

Since teachers' attitudes toward authority and warmth were so closely related we examined these attitudes for directors by combining them into the four possible categories as follows in Table 58.

TABLE 58

DIRECTOR ATTITUDES TOWARD AUTHORITY AND WARMTH

ATTITUDES	DIRECTORS
High warmth + situational authority	25
High warmth + arbitrary authority	8
Low warmth + situational authority	5
Low warmth + arbitrary authority	12

For directors, as for teachers, the two styles which are most common are the opposites, high warmth in combination with situational authority and low warmth with arbitrary authority.

Leadership style of directors is predictive of differences in teacher performance in centers. The significant relationships which appear in Table 59 are summarized on the top of page 197.

The categories sensitive to director's leadership style are similar to those which were significant for teachers, except that neutral behavior and verbal skills (both

TABLE 59

TEACHER BEHAVIOR BY LEADERSHIP STYLE OF DIRECTOR

TEACHER BEHAVIOR	LEADERSHIP STYLE OF DIRECTOR			
	High Warmth		Low Warmth	
(N=50 centers)	Situational (N=25)	Arbitrary (N=8)	Situational (N=5)	Arbitrary (N=12)
Non-communicative episodes	22.3	17.4	23.6	21.6
Encouragement to Individuals				
Supporting/extending	0.4	0.4	0.3	0.2
Responsive*	10.6	11.6	10.2	6.1
Routine	8.9	8.1	7.7	7.6
Approval/nurturance	4.1	3.8	2.8	3.3
Total**	24.0	23.9	21.0	17.2
Teacher Direction to Individuals				
Teacher suggestion	6.2	6.5	4.5	6.8
Teacher approval**	1.0	2.2	1.2	2.2
Total	7.2	8.7	5.7	9.0
Guidance to Individuals				
Direct*	18.9	17.3	19.6	22.2
Indirect	3.5	4.1	4.1	2.9
Manipulative*	0.4	1.1	1.0	0.8
Distraction/redirection	0.5	0.5	0.6	0.3
Total	23.3	23.0	25.3	26.2
Restriction to Individuals				
Simple	5.6	6.0	7.2	6.7
Firm enforcement	0.6	0.6	0.5	0.8
Belittling/disparaging*	0.3	0.4	0.4	0.9
Total	6.5	7.0	8.1	8.4
Neutral to Individuals				
Information exchange	7.7	8.6	8.8	7.3
Care of physical needs	7.1	5.3	8.1	6.6
Total	14.8	13.9	16.9	13.9
Verbal Skills to Individuals				
Repetition	0.2	0.2	0.2	0.4
Expressive	2.7	2.6	2.7	3.1
Interpretive	4.4	4.1	4.2	3.7
Informational	1.7	2.0	1.9	1.4
Total	9.0	8.9	9.0	8.6
Guidance to Groups				
Direct*	2.1	1.8	2.5	3.5
Total*	3.1	3.0	4.1	5.1

Significant ** .01, * .05 level (F ratio)

significant for teachers) are not included.

Category of teacher performance	Positive correlation with director's:
Total encouragement to individuals	High warmth
Teacher approval to individuals	Arbitrary authority
Direct guidance to individuals	High warmth + arbitrary authority
Manipulative guidance to individuals	High warmth + arbitrary authority and Low warmth + situational authority
Belittling/disparaging restriction to individuals	Low warmth + arbitrary authority
Guidance to groups	Low warmth + arbitrary authority

For lessons taught there is a marked significant difference in creativity with a high for centers with directors who express warmth-situational attitudes, and a low for low warmth arbitrary centers. Lessons in control and restraint and rules of social living are high in the latter category of centers. (See Table 60.)

Table 61 shows the relationship of teacher manner within centers to leadership style of director. In centers where leadership style is both situational and warm, teachers are most frequently observed to be sensitive and friendly. Where it is arbitrary and lacking in warmth, centers were not rated as sensitive in teacher manner and friendly ratings were infrequent. Insensitive teacher manner is associated with low warmth as expressed by directors.

High or low warmth of director appears to bear some relationship to program format. Directors rated as high in attitudes toward warmth appear to use all of the formats with

TABLE 60

LESSONS TAUGHT BY LEADERSHIP STYLE OF DIRECTOR

(Figures are mean percentage)

LESSONS TAUGHT	LEADERSHIP STYLE OF DIRECTOR			
	High Warmth		Low Warmth	
(N=50 centers)	Situational (N=25)	Arbitrary (N=8)	Situational (N=5)	Arbitrary (N=12)
Physical Skills				
Large muscle	2.4%	1.6%	1.4%	1.4%
Eye-hand coordination	4.8	3.9	0.4	5.1
Verbal-physical coordination	6.4	5.5	7.4	9.2
Social Skills				
Rules of social living	9.9	14.5	14.0	19.2
Dealing with other children	5.3	6.1	3.8	3.9
Consideration	9.4	12.7	11.6	5.2
Intellectual Skills				
Formal skills	11.2	10.0	12.4	16.9
Knowledge and awareness	9.4	12.4	7.0	7.1
Pleasure, awe and wonder	8.7	9.4	3.2	3.2
Self-Responsibility				
Self-sufficiency	9.3	5.4	12.8	7.5
Creativity and experimentation**	11.4	6.4	7.6	1.9
Control and restraint	10.6	12.6	17.2	18.7
Dealing with strong emotions	0.9	0.1	0.8	0.2
	100.0%	100.0%	100.0%	100.0%

Significant ** .01, * .05 level (F ratio)

approximately equal frequency. Directors low in warmth have centers more variable in format; notably, no center characterized by low warmth and arbitrary authority used a free choice format. (See Table 62.)

TABLE 61

TEACHER MANNER BY LEADERSHIP STYLE OF DIRECTOR

TEACHER MANNER	LEADERSHIP STYLE OF DIRECTOR			
	High Warmth		Low Warmth	
(N=50 centers)	Situational (N=25)	Arbitrary (N=8)	Situational (N=5)	Arbitrary (N=12)
Sensitive	44.0%	25.0%	20.0%	0.0%
Friendly	20.0	0.0	0.0	16.7
Neutral	24.0	62.5	40.0	50.0
Insensitive	12.0	12.5	40.0	33.3
	100.0%	100.0%	100.0%	100.0%

TABLE 62

PROGRAM FORMAT BY LEADERSHIP STYLE OF DIRECTOR

PROGRAM FORMAT	LEADERSHIP STYLE OF DIRECTOR			
	High Warmth		Low Warmth	
(N=50 centers)	Situational (N=25)	Arbitrary (N=8)	Situational (N=5)	Arbitrary (N=12)
Free play	32.0%	25.0%	20.0%	33.3%
Free choice	20.0	25.0	60.0	0.0
Teacher-directed/free play	24.0	25.0	20.0	41.7
Teacher-directed	24.0	25.0	0.0	25.0
	100.0%	100.0%	100.0%	100.0%

Director Role Concept and Teacher Performance

Directors were classified according to role concept as follows in Table 63. Since only one director described a custodial role, this category has been dropped from the analysis which follows Table 63.

TABLE 63

ROLE CONCEPT OF DIRECTORS

	(N=50)	
Child-centered	6	12%
Semi child-centered	18	36
Semi adult-centered	12	26
Adult-centered	13	24
Custodial	1	2
		100.0%

The relationship between role concept and leadership style was ambiguous for the "semi" roles but clear and consistent for adult- or child-centered roles. Only two directors (of 30) who believed in situational authority were classified as adult-centered. Conversely, no director (of 20) who believed in arbitrary authority was classified as child-centered. (See Table 64.)

TABLE 64

HOPE FOR CHILDREN'S EXPERIENCES BY

LEADERSHIP STYLE OF DIRECTOR

HOPE FOR CHILDREN'S EXPERIENCES	LEADERSHIP STYLE OF DIRECTOR				
	High Warmth		Low Warmth		
(N=49 centers)	Situational (N=24)	Arbitrary (N=8)	Situational (N=5)	Arbitrary (N=12)	Total
Child-centered	5	0	1	0	6
Semi child-centered	12	1	2	3	18
Semi adult-centered	5	3	2	3	13
Adult-centered	2	4	0	6	12

Director's role concept is highly predictive of expectations for educational achievement. Adult-centered directors have higher educational expectations for children, as defined, than do child-centered directors. (See Table 65.)

TABLE 65

RELATIONSHIP OF DIRECTOR EDUCATIONAL EXPECTATIONS TO CONCEPT OF ROLE

EDUCATIONAL EXPECTATIONS OF DIRECTOR (N=49 directors)	DIRECTOR CONCEPT OF ROLE Child-centered (N=6)	Semi child-centered (N=18)	Semi adult-centered (N=13)	Adult-centered (N=12)
Low, does not mention educational expectations	66.7%	61.1%	46.2%	8.3%
Medium, does mention preparation for school	16.7	33.3	38.5	50.0
High, describes cognitive skills or specific curriculum	16.7	5.6	15.4	41.7
	100.0%	100.0%	100.0%	100.0%

When teacher performance in centers is examined according to the director's role concept, the direction of the results is similar to that based on teacher's role concept except that fewer categories of behavior reach significance. An exception is the category of interpretive verbal skills. (See Table 66, compared with Table 55, page 192.) Lessons taught show a similar relationship to teachers for clear cut adult- and child-centered roles. Pleasure, self-sufficiency, and creativity are high and consideration remains exceedingly high in centers with child-centered directors; rules of

TABLE 66

TEACHER BEHAVIOR BY DIRECTOR CONCEPT OF ROLE

(Figures are mean percentages)

CATEGORIES OF TEACHER BEHAVIOR	DIRECTOR CONCEPT OF ROLE			
(N=49 centers)	Child-centered (N=6)	Semi child-centered (N=18)	Semi adult-centered (N=13)	Adult-centered (N=12)
Non-communicative episodes	20.6%	22.1%	19.8%	22.1%
Encouragement to Individuals				
Supporting/extending*	0.6	0.4	0.3	0.1
Responsive	11.6	10.7	9.2	7.2
Routine	7.9	9.5	8.3	7.9
Approval/nurturance	4.8	3.9	3.5	3.3
Total*	24.9	24.5	21.3	18.5
Teacher Direction to Individuals				
Teacher suggestion	6.0	6.0	6.1	6.9
Teacher approval	0.6	1.2	2.0	1.8
Total	6.6	7.2	8.1	8.7
Guidance to Individuals				
Direct	18.3	19.2	19.0	21.1
Indirect	4.2	3.4	3.6	3.2
Manipulative	2.8	5.7	9.5	7.7
Distraction/redirection	0.8	0.4	0.4	0.4
Total	26.1	28.7	32.5	32.4
Restriction to Individuals				
Simple*	3.8	5.3	7.5	6.9
Firm enforcement	0.4	0.5	0.7	0.8
Belittling/disparaging*	0.1	0.3	0.6	0.9
Total*	4.3	6.1	8.8	8.6
Neutral to Individuals				
Information exchange	8.4	7.9	7.5	7.8
Care of physical needs	6.5	7.5	6.1	6.4
Total	14.9	15.4	13.6	14.2
Verbal Skills to Individuals				
Repetitive	0.2	0.3	0.2	0.4
Expressive	2.7	2.6	3.3	2.6
Interpretive*	5.1	4.2	4.2	3.5
Informational	2.1	1.7	1.5	1.7
Total	10.1	8.8	9.2	8.2

Significant ** .01, * .05 level (F ratio)

social living is exceedingly high and control and restraint also remain high in centers with directors reporting adult-centered role concepts. The "semi" roles show less variation for directors and resemble more closely the pattern for a child- or adult-centered role than in the case for teachers. (See Table 67.)

TABLE 67

LESSONS TAUGHT BY DIRECTOR CONCEPT OF ROLE

LESSONS TAUGHT	DIRECTOR CONCEPT OF ROLE			
(N=49 centers)	Child-centered (N=6)	Semi child-centered (N=18)	Semi adult-centered (N=13)	Adult-centered (N=12)
Physical Skills				
Large muscle	1.5%	2.1%	0.8%	3.3%
Eye-hand coordination	3.8	5.1	1.6	6.4
Verbal-physical coordination	5.0	7.9	3.7	10.2
Social Skills				
Rules of social living*	6.0	9.5	18.8	16.9
Dealing with other children	6.2	5.8	4.7	3.7
Consideration	17.7	5.8	12.2	7.0
Intellectual Skills				
Formal skills	11.0	12.4	11.5	13.8
Knowledge & awareness	6.0	9.6	11.3	7.0
Pleasure, awe & wonder	11.2	8.0	5.0	4.2
Self-Responsibility				
Self-sufficiency	11.5	10.9	6.8	6.0
Creativity & experimentation**	11.8	10.2	6.2	4.2
Control and restraint	6.8	11.7	16.8	17.2
Dealing with strong emotions	0.8	0.8	0.4	0.3
	100.0%	100.0%	100.0%	100.0%

Significant ** .01, * .05 level (F ratio)

Director's role concept appears to be a good predictor of teacher manner. All centers with child-centered directors have a rating on teacher manner of sensitive or friendly. Virtually no centers with adult-centered directors rate in these categories. (See Table 68.)

TABLE 68

TEACHER MANNER BY DIRECTOR CONCEPT OF ROLE

TEACHER MANNER	DIRECTOR CONCEPT OF ROLE			
(N=49 directors)	Child-centered (N=6)	Semi child-centered (N=18)	Semi adult-centered (N=13)	Adult-centered (N=12)
Sensitive	83.3%	16.7%	30.8%	8.3%
Friendly	16.7	33.3	0.0	0.0
Neutral	0.0	44.4	38.5	50.0
Insensitive	0.0	5.6	30.8	41.7
	100.0%	100.0%	100.0%	100.0%

Program format also is related to role concept of director. (See Table 69.)

TABLE 69

PROGRAM FORMAT BY DIRECTOR CONCEPT OF ROLE

PROGRAM FORMAT	DIRECTOR CONCEPT OF ROLE			
(N=49 directors)	Child-centered (N=6)	Semi child-centered (N=18)	Semi adult-centered (N=13)	Adult-centered (N=12)
Free play	0.0%	33.3%	45.1%	16.7%
Free choice	66.7	11.1	23.1	8.3
Teacher-directed group	16.7	27.8	23.1	41.6
Teacher-directed individual	16.7	27.8	7.7	33.3
	100.0%	100.0%	100.0%	100.0%

Child-centered directors avoid a free play format, showing a strong preference for free choice. Adult-centered directors seldom use free choice, characteristically choosing teacher-directed formats.

Summary

Director leadership style of high warmth with situational authority is predictive of teacher performance which is high in encouragement, low in restriction, high in lessons in creativity, and sensitive in teacher manner. It is not predictive of program format. At the other extreme, a leadership style of low warmth with arbitrary authority is predictive of teacher behavior which is low in encouragement, high in restriction, and high in lessons which emphasize rules of social living, formal skills, and control and restraint. Teacher manner is more frequently neutral or insensitive. Directors expressing preference for low warmth and arbitrary authority do not use a free choice format.

Attitudes toward authority appear to be more predictive of role concept than attitudes toward warmth. Directors preferring situational authority usually do not describe an adult-centered role while those directors who prefer arbitrary authority do not describe a child-centered role.

A child-centered role is highly predictive of teacher behavior described for center program Pattern I, Freedom-Restraint, namely, sensitive teacher manner and the teacher behavior and lessons taught which are associated with it. An adult-centered role is predictive of the behavior and lessons taught described by the opposite pole of this factor (restraint).

The "semi" role concepts are much less predictive of center program.

Staff Consistency

An attempt was made to evaluate staff consistency in expressed attitudes, using ratings on role concept, authority, warmth, and attitude on aggression toward adults. Lack of consistency for each of four categories between the director and a teacher was said to exist only if the teacher expressed attitudes at the opposite end of the continuum from those expressed by the director. If either occupied a center position in the continuum, their attitudes were considered consistent (or at least somewhat compatible). The four categories with the opposite positions within each are presented below:

Authority	Situational *vs.* arbitrary
Warmth	High *vs.* low
Aggression toward adults	Permissive *vs.* prohibitive
Role concept	Child-centered *vs.* adult-centered

Centers in which there was no inconsistency in all four categories were rated as consistent, those with one inconsistency as mainly consistent, two inconsistencies somewhat inconsistent, three as inconsistent. No center had personnel who disagreed in all categories. (See Table 70.)

TABLE 70

RELATIONSHIP OF STAFF CONSISTENCY TO DIRECTOR ATTITUDE TOWARD AUTHORITY

STAFF CONSISTENCY	DIRECTOR ATTITUDE TOWARD AUTHORITY		
	Situational		Arbitrary
(N=49 directors)	Permissive (N=7)	Conservative (N=23)	(N=19)
Consistent	28.6%	39.1%	52.6%
Inconsistent in one category	14.3	30.4	42.1
Inconsistent in two categories	42.8	30.4	5.3
Inconsistent in three categories	14.3	0.0	0.0
	100.0%	100.0%	100.0%

Summary

Throughout this section a sharp contrast, predictive of differences in teacher behavior and performance in centers has been drawn between personnel who express a preference for situational authority, high warmth, and child-centered role and those who prefer arbitrary authority, low warmth, and adult-centered role. These clear extremes parallel the teacher pattern, Encouragement-Restriction, and the center program pattern, Freedom-Restraint.

Teachers and directors who describe other combinations of attitudes and a role concept which is only semi child- or semi adult-centered present a picture which is much less clear or predictable. Some of these personnel, we feel, are most likely to fit the patterns which describe teachers who are inactive (Pattern II) or those who are inclined to superficial involvement (Pattern IV).

Data on attitudes obtained by interview were predictive of performance as observed. As might be expected, interview data proved to be most reliable for those persons who express clear-cut extremes in attitude. Predictions can be made only for groups not for individuals. Throughout this chapter it is apparent that not every teacher behaved as predicted by her attitudes. Some teachers profess high warmth yet do not perform in this manner, moreover, other teachers who profess a dislike for warmth were found to behave in a "warm" manner.

This lack of congruence between expected and observed behavior may be due to the inadequacies and inaccuracy of language, vagueness of attitude, or to circumstances within the milieu in which the teacher performs which pull her away from her expressed attitudes. External circumstances which appear to affect staff performance will be discussed in the following chapters.

Other Characteristics of Staff

For the purpose of examining the effect on day care program of certain personal attributes of staff, teachers and directors were asked about their age, previous experience, formal education, and special training for work with young children.

Some of these variables proved of little importance. For example, age of personnel did not appear to be a predictive variable and showed no significant relationships with other variables. Table 71 is included to show the age distribution for directors and teachers. As might be expected, directors are not found in the lowest age category, although at the opposite end of the age range, percentages are quite similar.

TABLE 71

AGE OF TEACHERS AND DIRECTORS

TEACHERS (N=104)		DIRECTORS (N=50)	
Under 30 years	27.9%	30 - 40 years	20.0%
30 - 50	36.5	41 - 60	72.0
51 - 60	28.8	Over 60	8.0
Over 60	6.8		
	100.0%		100.0%

Previous experience, possibly because it was difficult to classify, was also a poor predictor of performance. We arbitrarily limited it to previous experience working in a group program for preschool children (i.e., day care or nursery school). In actuality many of our teachers had had other experience which one could hardly discount, such as mothering their own children, teaching in elementary and Sunday school, baby sitting, and volunteer activities. Previous experience was predictive of no significant differences in teacher performance or attitude.

Formal education also was not a simple variable to evaluate. Many personnel with a college degree or a substantial amount of college work had completed it up to 30 years earlier at one of a variety of normal schools and unaccredited colleges. Such an educational background hardly seems comparable to a liberal arts degree from a well-known university. The distribution of personnel by amount of formal education is shown in Table 72. Except in the highest and lowest categories, percentages are quite similar for teachers and directors.

TABLE 72

FORMAL EDUCATION OF TEACHERS AND DIRECTORS

FORMAL EDUCATION	TEACHERS (N=103)	DIRECTORS (N=50)
High school only	27.1%	12.0%
Some college	54.3	52.0
College degree (BA or BS)	14.5	20.0
Graduate training and/or degree	3.9	16.0
	100.0%	100.0%

Amount of Special Training

Amount of special training for work with preschool children proved to be both a more specific and a more powerful variable. Amount of special training was divided into five categories defined on the basis of answers received in previous interviews (Prescott, 1964, 1965).

1. None
2. Attendance at workshops These usually last for one day and are given several times a year by such groups as the Preschool Association and the Southern California Association for Nursery Education (SCANE).

3. Some course work and possible workshops Courses relevant to day care teaching, such as Child Psychology and Curriculum in the Nursery School, are offered by the various junior colleges.

4. Certificate This term is used to cover completion of either (1) a core program offered by university extension, which is a 16-unit plan of minimum preparation in nursery education, or (2) requirements for a Children's Center permit, based on 60 units of course work including a limited amount in early childhood education.

5. Degree in Child Development or equivalent.

In our sample the range in amount of special training was extensive, for both teachers and directors. (See Table 73.)

TABLE 73

SPECIAL TRAINING OF TEACHERS AND DIRECTORS

SPECIAL TRAINING	TEACHERS (N=104)	DIRECTORS (N=50)
None	28.8%	18.0%
Workshops	9.6	10.0
Some course work	44.2	36.0
Certificate	11.5	28.0
Major in child development	5.8	8.1
	100.0%	100.0%

Special Training of Teachers

Teacher behavior does vary in certain categories according to amount of special training. (See Table 74.) Teachers with no training show the lowest frequencies for all types of encouragement and the highest use of all types of restriction. They also use little indirect guidance, and are rated lower in development of verbal skills. Those with certificate training show the highest frequency for responsive encouragement and the lowest frequencies for restriction and for manipulative guidance.

TABLE 74

TEACHER BEHAVIOR BY SPECIAL TRAINING OF TEACHERS

(Figures are mean frequencies)

CATEGORIES OF TEACHER BEHAVIOR (N=104 teachers)	SPECIAL TRAINING OF TEACHERS None (N=30)	Work shops (N=10)	Some course work (N=46)	Certificate (N=12)	Major in child development (N=6)
Encouragement to Individuals					
Supporting/extending	0.1	0.3	0.3	0.3	0.3
Responsive*	4.4	7.4	6.2	8.1	6.3
Routine**	5.1	8.5	6.0	5.9	6.6
Approval/nurturance*	1.5	3.2	2.2	2.6	1.6
Total**	11.1	19.4	14.7	16.9	14.8
Guidance to Individuals					
Direct	13.8	15.4	13.0	12.1	15.2
Indirect**	1.7	3.3	2.4	2.4	3.2
Manipulative*	0.6	1.0	0.4	0.3	0.6
Distraction/redirection	0.2	0.3	0.3	0.3	0.5
Total	16.3	20.0	16.1	15.1	19.5
Restriction to Individuals					
Simple*	5.5	4.3	3.8	2.7	4.7
Firm enforcement*	0.7	0.3	0.4	0.2	0.3
Belittling/disparaging	0.7	0.1	0.3	0.1	0.3
Total**	6.9	4.7	4.5	3.0	5.3
Verbal Skills to Individuals					
Repetitive	0.1	0.3	0.2	0.1	0.2
Expressive	1.4	2.5	2.1	2.9	1.7
Interpretive	2.3	3.7	3.0	3.3	2.9
Informational	1.0	1.7	1.3	1.3	1.1
Total*	4.8	8.2	6.6	7.6	5.9

Significant at ** .01, * .05 level (F ratio)

Teachers also show differences in lessons taught according to special training. (See Table 75.)

TABLE 75

LESSONS TAUGHT BY SPECIAL TRAINING OF TEACHERS

(Figures are mean frequencies)

LESSONS TAUGHT	SPECIAL TRAINING OF TEACHERS				
(N=104 teachers)	None (N=30)	Work shops (N=10)	Some courses (N=46)	Certificate (N=12)	Major in child development (N=6)
Physical Skills					
Large muscle**	0.1	0.2	0.5	2.0	0.0
Eye-hand coordination	1.4	2.3	0.8	0.3	0.5
Verbal-physical coordination	1.6	2.2	2.0	2.0	1.0
Social Skills					
Rules of social living	3.1	3.7	2.4	2.2	4.3
Dealing with other children*	0.5	0.8	1.0	2.1	0.0
Consideration**	0.6	1.6	2.6	4.4	1.3
Intellectual Skills					
Formal skills	3.2	4.9	3.2	3.1	1.5
Knowledge and awareness	2.4	1.3	2.3	1.2	1.3
Pleasure, awe and wonder	1.2	3.5	1.4	1.6	1.2
Self-responsibility					
Self-sufficiency	1.1	1.7	2.6	2.3	3.5
Creativity and experimentation	1.2	1.3	2.0	1.7	4.4
Control and restraint*	5.0	2.9	2.2	1.2	3.7
Dealing with strong emotions	0.0	0.0	0.1	0.3	0.2
Can't Decide	2.1	2.4	3.6	3.5	4.5

Significant at **.01, *.05 level (F ratio)

Teachers with certificate training teach significantly more lessons in large muscle skills, dealing with other children, and consideration for rights and feelings of others. They also are lowest on lessons in control and restraint. Teachers with no training present a pattern directly opposite to certificate teachers, ranking lowest in areas where certificate teachers are highest. They also are highest in lessons in control and restraint. Teachers with training in child development rank surprisingly high on rules of social living and control and restraint and low in consideration. They are high in creativity and self-sufficiency, although not significantly so.

These apparently inconsistent findings may result from the low number of teachers with child development majors or may, in fact, accurately reflect the current status of requirements for day care teachers in California. The Department of Social Welfare's proposed educational standards for teachers in licensed nurseries are reflected in the certificate program. Teachers in public centers are supposed to meet permit requirements, but a large proportion of such teachers have been employed on a provisional basis. Teachers we have classified at "certificate" level are in fact more likely to have had recent course work pertaining directly to their teaching than teachers classified as having a major in child development. Most of the latter have completed programs in home economics or kindergarten-primary education, the majority of them a number of years ago. As a general rule (to which there are exceptions), individuals qualified by current standards to teach in the California public schools do not teach in day care.

Table 76 shows the relationship between teacher manner and special training. Teachers with certificate training appear to have the highest ratings, those with no training the lowest. However, both teachers with no training and those with a major in child development have lower percentages in the two highest categories than teachers with moderate levels of training.

TABLE 76

TEACHER MANNER BY SPECIAL TRAINING OF TEACHERS

(Summary rating)

TEACHER MANNER	SPECIAL TRAINING OF TEACHERS				
(N=103 teachers)	None (N=29)	Work shops (N=10)	Some courses (N=46)	Certificate (N=12)	Major in child development (N=6)
Sensitive	10.3%	0.0%	19.6%	16.7%	0.0%
Moderately sensitive	6.9	30.0	17.4	33.3	16.6
Neutral	27.6	50.0	34.8	41.7	50.0
Moderately insensitive	24.1	10.0	19.6	8.3	33.3
Insensitive	31.0	10.0	8.7	0.0	0.0
	100.0%	100.0%	100.0%	100.0%	100.0%

Attitudes toward authority, warmth, and concept of role vary according to amount of special training. Teachers' attitudes toward authority appear to become less arbitrary as the amount of training increases. (See Table 77.)

TABLE 77

RELATIONSHIP OF TEACHER ATTITUDE TOWARD AUTHORITY TO SPECIAL TRAINING

TEACHER ATTITUDE TOWARD AUTHORITY (N=104 teachers)	SPECIAL TRAINING OF TEACHERS None (N=30)	Work shops (N=10)	Some courses (N=46)	Certificate (N=12)	Major in child development (N=6)
Permissive	6.7%	0.0%	15.2%	25.0%	0.0%
Conservative	26.7	50.0	34.8	66.7	100.0
Arbitrary	66.7	50.0	50.0	8.3	0.0
	100.0%	100.0%	100.0%	100.0%	100.0%

Teachers' ratings for warmth show a clear relationship to amount of special training. As the amount of training increases, expressed attitudes of warmth also increase. (See Table 78.)

TABLE 78

RELATIONSHIP OF TEACHER ATTITUDE TOWARD WARMTH TO SPECIAL TRAINING

TEACHER ATTITUDE TOWARD WARMTH (N=104 teachers)	SPECIAL TRAINING OF TEACHERS None (N=30)	Work shops (N=10)	Some courses (N=46)	Certificate (N=12)	Major in child development (N=6)
High	30.0%	60.0%	58.6%	83.3%	83.3%
Low	70.0	40.0	41.3	16.7	16.7
	100.0%	100.0%	100.0%	100.0%	100.0%

Teachers' concept of role does not show as clear a relationship to special training as do authority and warmth. However, there is a marked tendency for child-centered attitudes to be more frequently described by teachers as amount of special training increases. Conversely, adult-centered attitudes are more often described by teachers with limited or no training. (See Table 79.)

TABLE 79

RELATIONSHIP OF TEACHER CONCEPT OF ROLE TO SPECIAL TRAINING

TEACHER CONCEPT OF ROLE	SPECIAL TRAINING OF TEACHERS				
(N=103 teachers)	None (N=30)	Work shops (N=10)	Some courses (N=45)	Certificate (N=12)	Major in child development (N=6)
Child-centered	6.7%	20.0%	20.0%	33.3%	33.3%
Semi child-centered	20.0	10.0	28.9	50.0	50.0
Semi adult-centered	56.7	50.0	26.7	16.7	0.0
Adult-centered	16.7	20.0	24.4	0.0	16.7
	100.0%	100.0%	100.0%	100.0%	100.0%

In summary, amount of special training predicts not only certain teacher behavior, but also style of leadership, and to a lesser degree, role concept. In general, as teachers receive more training they rate higher in encouragement and lower in restriction, higher in lessons of consideration and dealing with other children and lower in control and restraint. Teachers with larger amounts of special training also increasingly prefer authority which is situational and express feelings of high warmth.

Special Training of Directors

The amount of special training reported by directors has some effect on program, but this is not as pronounced as is the case with teachers. Its relationship to teacher performance in centers is negligible. (Table not shown.) Certain differences can be noted, however, in lessons taught within the center. (See Table 80.) Eye-hand coordination is much higher in centers where directors have had no training. Creativity and experimentation appears to increase with training, as does consideration.

Teacher manner within centers shows some tendency toward more ratings of warm and sensitive when amount of director training is certificate or better. However, nearly one-third of the directors with certificate training have centers which rate low in teacher manner. (See Table 81.)

There is some relationship between the training of directors and their attitudes toward authority. Directors with the least training are not permissive, while those with more extensive training are seldom arbitrary. (See Table 82.)

The relationship between warmth and special training of directors is slight. High warmth shows a small increment with certificate or child development training. (See Table 83.)

TABLE 80

LESSONS TAUGHT BY SPECIAL TRAINING OF DIRECTOR

(Figures are mean percentages)

LESSONS TAUGHT	SPECIAL TRAINING OF DIRECTOR				
(N=50 centers)	None (N=9)	Work shops (N=5)	Some courses (N=18)	Certificate (N=14)	Major in child development (N=4)
Physical Skills					
Large muscle	3.7%	1.8%	1.5%	1.3%	2.5%
Eye-hand coordination*	10.4	1.4	3.5	3.6	0.5
Verbal-physical coordination	4.6	8.0	9.6	4.9	7.2
Social Skills					
Rules of social living	16.6	11.0	14.1	11.8	10.2
Dealing with other children	6.0	7.6	4.0	5.1	3.0
Consideration	6.1	9.2	7.1	11.6	16.5
Intellectual Skills					
Formal skills	11.8	13.4	14.4	9.4	15.0
Knowledge and awareness	8.4	11.2	8.5	9.0	11.0
Pleasure, awe and wonder	6.3	9.4	5.7	9.2	3.0
Self-Responsibility					
Self-sufficiency	5.4	11.4	7.4	12.1	5.2
Creativity and experimentation	8.1	3.4	5.9	10.1	14.2
Control and restraint	12.1	12.4	17.9	10.3	10.0
Dealing with strong emotions	0.6	0.0	0.3	1.1	0.8
	100.0%	100.0%	100.0%	100.0%	100.0%

Significant * .05 level (F ratio)

TABLE 81

TEACHER MANNER BY SPECIAL TRAINING OF DIRECTOR

TEACHER MANNER (N=50 centers)	SPECIAL TRAINING OF DIRECTOR None (N=9)	Work shops (N=5)	Some courses (N=18)	Certificate (N=14)	Major in child development (N=4)
Sensitive	22.2%	0.0%	16.7%	50.0%	50.0%
Friendly	22.2	20.0	11.1	7.1	25.0
Neutral	44.4	80.0	44.4	14.3	25.0
Insensitive	11.1	0.0	27.8	28.6	0.0
	100.0%	100.0%	100.0%	100.0%	100.0%

TABLE 82

RELATIONSHIP OF DIRECTOR ATTITUDE TOWARD AUTHORITY TO SPECIAL TRAINING

DIRECTOR ATTITUDE TOWARD AUTHORITY (N=50 centers)	SPECIAL TRAINING OF DIRECTOR None (N=9)	Work shops (N=5)	Some courses (N=18)	Certificate (N=14)	Major in child development (N=4)
Permissive	0.0%	0.0%	11.1%	14.3%	75.0%
Conservative	55.6	60.0	38.9	57.1	25.0
Arbitrary	44.4	40.0	50.0	28.6	0.0
	100.0%	100.0%	100.0%	100.0%	100.0%

There is no clear-cut relationship between amount of director training and director role concept. There does appear to be a tendency for those with little training to avoid a clearly child-centered role, and for those with certificate or better to avoid an adult-centered role. (See Table 84.)

TABLE 83

RELATIONSHIP OF DIRECTOR ATTITUDE TOWARD WARMTH TO SPECIAL TRAINING

DIRECTOR ATTITUDE TOWARD WARMTH	SPECIAL TRAINING OF DIRECTOR				
(N=50 directors)	None (N=9)	Work shops (N=5)	Some courses (N=18)	Certificate (N=14)	Major in child development (N=4)
High	66.7%	60.0%	61.1%	71.4%	75.0%
Low	33.3	40.0	38.9	28.6	25.0
	100.0%	100.0%	100.0%	100.0%	100.0%

TABLE 84

RELATIONSHIP OF DIRECTOR CONCEPT OF ROLE TO SPECIAL TRAINING

DIRECTOR CONCEPT OF ROLE	SPECIAL TRAINING OF DIRECTOR				
(N=50 centers)	None (N=9)	Work shops (N=5)	Some courses (N=18)	Certificate (N=14)	Major in child development (N=4)
Child-centered	0.0%	0.0%	11.1%	21.4%	25.0%
Semi child-centered	44.4	60.0	33.3	21.4	50.0
Semi adult-centered	22.2	20.0	22.2	35.7	25.0
Adult-centered	33.3	20.0	33.3	14.3	0.0
Custodial	0.0	0.0	0.0	7.1	0.0
	100.0%	100.0%	100.0%	100.0%	100.0%

Two of the four program formats show a relationship to training of director. Incidence of free choice format increases with training, while incidence of teacher-directed/

free play decreases. The free play and teacher-directed formats show very little relationship to special training. (See Table 85.)

TABLE 85

PROGRAM FORMAT BY SPECIAL TRAINING OF DIRECTOR

PROGRAM FORMAT (N=50 directors)	SPECIAL TRAINING OF DIRECTOR None (N=9)	Work shops (N=5)	Some courses (N=18)	Certificate (N=14)	Major in child development (N=4)
Free play	22.2%	40.0%	27.8%	28.6%	50.0%
Free choice	0.0	0.0	16.7	35.7	50.0
Teacher-directed/ free play	44.4	20.0	44.4	7.1	0.0
Teacher-directed	33.3	40.0	11.1	28.6	0.0
	100.0%	100.0%	100.0%	100.0%	100.0%

In summary, the amount of special training of teachers appears to be more predictive of both their behavior and attitudes than is the case for directors. Although relationships for directors similar to those for teachers are discernible, they are much less clear and predictable. The lack of a clear relationship between a director's special training and teacher performance in the center under her direction, as well as between a director's training and her attitudes, undoubtedly is due to several factors. First is the fact that a director's role is administrative and course work in the area of early childhood may not prepare her for her most important function. Second, organizational characteristics beyond her direct control may have a marked effect on her philosophy and job responsibilities. These will be discussed in the next chapter.

Summary

Throughout this chapter we have described two constellations of attitudes which are predictive of teacher behavior and performance in centers. The first constellation consists of expressed attitudes favoring high warmth, situational authority and a child-centered role concept. The second is a preference for low warmth, arbitrary authority and an adult-centered role concept. The behavior associated with these two extremes closely resembles that described for teacher pattern, Encouragement-Restriction, and center pattern, Freedom-Restraint.

Among teachers, preference for high warmth, situational authority and child-centered role is predictive of special training consisting of a certificate program or better. Conversely, preference for low warmth, arbitrary authority, and adult-centered role is predictive of little or no training.

Teachers who express attitudes and concept of role which do not clearly fit the clusters described are less predictable both in their behavior and their amount of special training.

The same relationship described for attitudes and role concept of teachers also holds for directors. Amount of special training of directors, however, is not predictive of teacher performance in centers. While special training of teachers appears to facilitate teacher behavior which is associated with a child-centered concept of role, the training of directors does not appear to facilitate administrative functions which produce a program which is child-centered.

CHAPTER VII

ORGANIZATIONAL CHARACTERISTICS

Organizational characteristics typically are so closely interrelated that it is difficult to separate and describe them one at a time. Centers may differ according to size, sponsorship, grouping practices, type of clientele, variety of services offered, and authority vested in the director. Of these characteristics, two stand out as most decisive in determining the specific character of a center, namely, size and sponsorship. Both are powerful indicators of other characteristics and they also are interrelated. (See Table 86.)

TABLE 86

RELATIONSHIP OF CENTER SIZE TO SPONSORSHIP

CENTER SIZE	SPONSORSHIP			
(N=50 centers)	Proprietary (N=30)	Non-profit (N=5)	Public (N=15)	Total (N=50)
Under 31 children	9	1	1	11
31 - 60 children	15	3	7	25
Over 60 children	6	1	7	14

The relationships which this table indicates are important to an understanding of the data which follow, namely, that small size and private sponsorship are nearly synonymous, and that large size accounts for almost half of all the public centers, but only one-fifth of the private ones.

Size of Centers

The classification of centers by size was based on the number of preschool children which they accommodated. Centers with fewer than thirty children were considered to be small, and centers with thirty-one to sixty children, medium; those with more than sixty were classified as large. We maintained this classification even though thirteen centers in our sample also had an extended day program for school age children and were, in effect, larger. In some centers the number of these children was small and their presence, in early morning or late afternoon, was hardly noticeable. In other centers, especially those located on school grounds in neighborhoods where split-shift attendance was necessary, these children occupied both space and teacher time. However, most centers in which this condition occurred enrolled more than sixty preschool children, so their classification would not have been altered.

Teacher behavior did not differ markedly by size of center except for direct guidance, which was high in large centers. Medium-sized centers appeared high in responsive encouragement and were lower in restriction than either large or small centers. Teacher direction was higher in small than in large centers. (See Table 87.)

TABLE 87

TEACHER BEHAVIOR BY SIZE OF CENTER

(Figures are mean percentages)

CATEGORIES OF TEACHER BEHAVIOR (N=50 centers)	SIZE OF CENTER		
	Under 31 (N=11)	31 - 60 (N=25)	Over 60 (N=14)
Non-communicative	21.2%	22.0%	20.7%
Encouragement to Individuals			
Supporting/extending	0.2	0.4	0.3
Responsive	8.3	10.7	8.7
Routine	8.2	8.0	9.0
Approval/nurturance	3.3	4.1	3.4
Total	20.0	23.2	21.4
Total nonroutine	11.8	15.2	12.4
Teacher Direction to Individuals			
Teacher suggestion	7.5	6.2	5.2
Teacher approval	1.7	1.3	1.8
Total	9.2	7.5	7.0
Guidance to Individuals			
Direct*	20.0	18.3	21.4
Indirect	3.4	3.8	3.2
Manipulative	0.7	0.6	0.8
Distraction/redirection	0.3	0.6	0.4
Total	24.4	23.3	25.8
Restriction to Individuals			
Simple	7.5	5.3	6.4
Firm enforcement	0.7	0.6	0.6
Belittling/disparaging	0.6	0.4	0.6
Total	8.8	6.3	7.6
Neutral to Individuals			
Information exchange	7.9	7.9	7.6
Care of physical needs	5.3	7.5	6.7
Total	13.2	15.4	14.3
Verbal Skills to Individuals			
Repetitive	0.4	0.2	0.2
Expressive	3.4	2.5	2.8
Interpretive	3.7	4.3	4.2
Informational	1.9	1.7	1.6
Total	9.4	8.8	8.8

Significant at * .05 level (F ratio)

Differences in lessons taught by size of center were more marked. (See Table 88.)

TABLE 88

LESSONS TAUGHT BY SIZE OF CENTER

(Figures are mean percentages)

LESSONS TAUGHT (N=50 centers)	SIZE OF CENTER Under 31 (N=11)	31 - 60 (N=25)	Over 60 (N=14)
Physical Skills			
Large muscle	3.7%	1.3%	1.7%
Eye-hand coordination	4.5	4.7	3.5
Verbal-physical coordination	6.6	6.6	8.1
Social Skills			
Rules of social living*	19.6	9.2	15.5
Dealing with other children*	2.4	7.0	3.6
Consideration	8.1	10.4	7.7
Intellectual Skills			
Formal skills	14.9	11.1	13.1
Knowledge and awareness	8.8	9.6	8.5
Pleasure, awe and wonder**	2.1	11.1	3.4
Self-Responsibility			
Self-sufficiency	6.5	10.1	7.5
Creativity and experimentation	5.8	9.5	6.8
Control and restraint**	16.6	8.4	20.2
Dealing with strong emotions	0.3	0.9	0.4
	100.0%	100.0%	100.0%

Significant at * .05 level, ** .01 level (F ratio)

Medium-size centers rate highest for lessons taught in consideration, self-sufficiency, and creativity and experimentation, and significantly highest for dealing with other children and pleasure, awe and wonder. Large and small centers have somewhat similar patterns, both rating significantly high in rules of social living, and control and restraint. Large centers are especially high in the latter category.

Teacher manner also tends to differ by size of center. (See Table 89.) The largest percentage of sensitive teachers, as well as the smallest percentage of insensitive ones, are found in medium size centers. Small and large centers have a much larger number of teachers categorized as insensitive. Small centers, as compared to large centers, have a somewhat larger percentage in the sensitive category and a smaller percentage in the category of insensitive.

TABLE 89

TEACHER MANNER BY SIZE OF CENTER

TEACHER MANNER	SIZE OF CENTER		
(N=50 centers)	Under 31 (N=11)	31 - 60 (N=25)	Over 60 (N=14)
Sensitive	18.2%	44.0%	7.1%
Friendly	9.1	12.0	21.4
Neutral	45.5	36.0	35.7
Insensitive	27.3	8.0	35.7
	100.0%	100.0%	100.0%

Program format differs by center size. (See Table 90.) Centers of medium size use all formats with almost equal frequency and are more likely than other centers to have a free choice format. Small centers seldom have a free play format, showing instead a preference for a teacher-directed/free play format. In large centers, free play appears to be the preferred format.

TABLE 90

PROGRAM FORMAT BY SIZE OF CENTER

PROGRAM FORMAT	SIZE OF CENTER		
(N=50 centers)	Under 31 (N=11)	31 - 60 (N=25)	Over 60 (N=14)
Free play	9.1%	28.0%	50.0%
Free choice	18.2	24.0	14.3
Teacher-directed/free play	45.5	24.0	21.4
Teacher-directed	27.3	24.0	14.3
	100.0%	100.0%	100.0%

Center Size and Grouping Practices

Centers vary in their grouping practices. Some have the children grouped by age throughout the major part of the day; other centers may group children for selected activities or for lunch, but organize part of the day for participation by a wide age range (i.e., ungrouped). Other centers do not group children by age.

We considered centers as basically grouped if less than 25 percent of the observations were of ungrouped children; occasionally ungrouped if 25 to 75 percent of observations were of age-grouped children; ungrouped if 75 percent of observations were of children ungrouped by age. In our sample 24 percent of the centers were basically grouped, 58 percent occasionally ungrouped, and 18 percent ungrouped.

Grouping practice proved to be highly determined by center size. (See Table 91.) No small centers had children basically grouped, and nearly one-half of these centers were found to have no age grouping. Large centers present the opposite picture, always having some grouping. Medium-size centers characteristically have some grouping, although any one of the three practices may be found in them. Of the nine centers which were essentially ungrouped, five were small centers and four were of medium size.

TABLE 91

RELATIONSHIP OF GROUPING PRACTICE TO SIZE OF CENTER

GROUPING PRACTICE (N=50 centers)	SIZE OF CENTER Under 31 (N=11)	31 - 60 (N=25)	Over 60 (N=14)
Basically grouped	0.0%	20.0%	50.0%
Occasionally ungrouped	54.5	64.0	50.0
Ungrouped	45.5	16.0	0.0
	100.0%	100.0%	100.0%

Centers with some form of grouping use any of the program formats with approximately equal frequency. Centers in which grouping is not practiced appear to use free play or teacher-directed/free play with much greater frequency than other formats. (See Table 92.)

Center Size and Incidence of Mixed Activity Settings

Throughout the study we had two types of observations, those in which the activity setting remained constant for the

20-minute period and those in which there was a change in setting within the twenty minutes. Our observers commented that in some centers it was more difficult to obtain a full 20-minute observation of one activity setting than in others.

TABLE 92

PROGRAM FORMAT BY GROUPING PRACTICES

PROGRAM FORMAT (N=50 centers)	GROUPING PRACTICE Basically grouped (N=12)	Occasionally ungrouped (N=29)	Ungrouped (N=9)
Free play	25.0%	27.6%	44.4%
Free choice	25.0	20.7	11.1
Teacher-directed/free play	16.7	31.0	33.3
Teacher-directed	33.3	20.7	11.1
	100.0%	100.0%	100.0%

We rated all centers according to the frequency of mixed activity settings. Those with 50 percent to 70 percent mixed were rated as average, those under 50 percent or over 70 percent as deviating from the norm. Table 93 shows the results by size of center. Centers of medium or large size have a similar pattern, but small centers have an exceptionally high percentage of mixed activity settings.

Probably the association of small center size with high incidence of mixed activity settings is related to the lack of flexibility of personnel within a small center. Teachers more often have to stop one activity abruptly to meet another demand, such as preparation of juice. In larger centers, housekeeping personnel and other teachers fill in, a luxury not available to teachers in small centers.

TABLE 93

RELATIONSHIP OF INCIDENCE OF MIXED ACTIVITY SETTINGS TO SIZE OF CENTER

INCIDENCE OF MIXED ACTIVITY SETTINGS (N=50 centers)	SIZE OF CENTER Under 31 (N=11)	31 - 60 (N=25)	Over 60 (N=14)
Average (between 50% and 70%)	9.1%	60.0%	64.3%
Under 50%	27.3	20.0	14.3
Over 70%	63.6	20.0	21.4
	100.0%	100.0%	100.0%

Center Size and Type of Physical Setting

The frequency with which indoor settings were judged by observers as crowded or roomy is related to size of center. Settings in which 30 percent or more of the observations were rated as roomy were found most often in large centers. No crowded settings were observed in large centers. Table 94 shows the percentage of total observations within centers which were rated as crowded or roomy.

Center Size and Incidence of Teaching Directors

In most centers the director's duties are primarily administrative, even though she may occasionally take over a group of children for short periods. In other centers, however, the director has regular teaching responsibilities. This combination of roles is most common in small or medium-size centers, which account for thirteen of the fourteen cases in which this dual role occurred in our sample. Only one director of a large center was considered a teaching director.

TABLE 94

RELATIONSHIP OF TYPE OF PHYSICAL SETTING TO SIZE OF CENTER

SETTING	SIZE OF CENTER		
(N=50 centers)	Under 31 (N=11)	31 - 60 (N=25)	Over 60 (N=14)
Roomy			
Less than 18%	90.9%	92.0%	78.5%
18 - 29%	9.1	4.0	14.3
30% or more	0.0	4.0	7.1
	100.0%	100.0%	100.0%
Crowded			
Less than 18%	72.7	80.0	100.0
18 - 29%	18.2	12.0	0.0
30% or more	9.1	8.0	0.0
	100.0%	100.0%	100.0%

Center Size and Attitudes of Staff

Leadership Style

Attitude toward authority did not appear to differ markedly for either teachers or directors by size of center. Differences in warmth (affection and dependency) were more evident. (See Table 95.)

In small centers most teachers are permissive or moderate in attitude toward affection, but directors are highly permissive. In medium-size centers all staff hold similar attitudes and are very seldom rated as not permissive. Large centers present a somewhat different picture. Teachers are similar to those in small centers (i.e., generally permissive or moderate). Directors, however, are infrequently permissive toward affection.

TABLE 95

RELATIONSHIP OF STAFF ATTITUDES TOWARD AFFECTION AND DEPENDENCY TO SIZE OF CENTER

ATTITUDES OF STAFF	SIZE OF CENTER					
	Under 31		31 - 60		Over 60	
(N= 50 directors) (N=104 teachers)	Tchr. (N=18)	Dir. (N=11)	Tchr. (N=53)	Dir. (N=25)	Tchr. (N=33)	Dir. (N=14)
Affection						
Permissive	44%	72%	60%	68%	46%	21%
Moderately permissive	39	9	32	28	39	57
Not permissive	17	18	8	4	15	21
	100%	100%	100%	100%	100%	100%
Dependency						
Permissive	34%	18%	38%	36%	30%	43%
Moderately permissive	28	64	51	60	45	29
Not permissive	39	18	11	4	24	29
	100%	100%	100%	100%	100%	100%

Most staff tend to be more liberal in their attitudes toward affection than toward dependency. In large centers, however, directors express attitudes which are more acceptant of dependency than of affection. Directors in large centers are more likely than other directors to express attitudes toward dependency which are either permissive or not permissive. Although the sample size is too small for definite conclusions, we suggest that children's problems of dependency increase as center size increases, leading directors either to accept or to attempt to ignore the problem. As a result of the differences described, over-all director attitudes toward warmth are rated considerably higher in small- and medium-size centers than in large ones. (See Table 96.)

TABLE 96

RELATIONSHIP OF DIRECTOR ATTITUDE TOWARD WARMTH TO SIZE OF CENTER

WARMTH	SIZE OF CENTER		
(N=50 centers)	Under 31 (N=11)	31 - 60 (N=25)	Over 60 (N=14)
High	72.7%	80.0%	35.7%
Low	27.3	20.0	64.3
	100.0%	100.0%	100.0%

Role Concept

Concept of role also varies with center size. Directors in small centers tend to be adult-centered, those in medium-size centers to be child-centered. Neither trend is apparent in centers of large size. (See Table 97.) Teachers in small and medium centers follow a pattern somewhat similar to directors, except in large centers where large numbers are adult-centered.

TABLE 97

RELATIONSHIP OF CONCEPT OF ROLE TO SIZE OF CENTER

CONCEPT OF ROLE	SIZE OF CENTER					
	Under 31		31 - 60		Over 60	
(N=49 centers) (N=104 teachers)	Tchr. (N=18)	Dir. (N=11)	Tch. (N=53)	Dir. (N=24)	Tchr. (N=33)	Dir. (N=14)
Child-centered	11.1%	0.0%	24.5%	20.0%	12.1%	7.1%
Semi child-centered	27.8	18.2	30.2	44.0	24.2	35.7
Semi adult-centered	27.8	36.4	20.8	16.0	15.2	35.7
Adult-centered	33.3	45.4	24.5	16.0	45.5	21.4
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Center Size and Amount of Special Training

As size of center increases the amount of special training of personnel appears to increase. Large centers have the lowest percentage of relatively untrained teachers and the highest percentage with certificate or better training. (See Table 98.) This same relationship holds to a more marked degree for directors. (See Table 99.)

Summary

Size of center does appear to influence the behavior of teachers. Medium-size centers appear most likely to foster a pattern of program similar to the Freedom pole of Pattern I, Freedom-Restraint. These centers are high on encouragement and lessons of pleasure, creativity, and dealing with other children, and low in restriction, rules of social living, and control and restraint. They are characterized by a relatively high proportion of sensitive teacher manner.

TABLE 98

RELATIONSHIP OF SPECIAL TRAINING OF
TEACHERS TO SIZE OF CENTER

SPECIAL TRAINING	SIZE OF CENTER		
(N=103 teachers)	Under 31 (N=18)	31 - 60 (N=52)	Over 60 (N=33)
None	38.8%	25.0%	24.2%
Workshops	5.6	13.2	6.1
Some courses	44.4	46.2	45.5
Certificate	11.1	11.5	12.1
Major in child development	0.0	3.8	12.1
	100.0%	100.0%	100.0%

TABLE 99

RELATIONSHIP OF SPECIAL TRAINING OF
DIRECTOR TO SIZE OF CENTER

SPECIAL TRAINING	SIZE OF CENTER		
(N=50 directors)	Under 31 (N=11)	31 - 60 (N=25)	Over 60 (N=14)
None	45.5%	12.0%	7.1%
Workshops	9.1	12.0	7.1
Some course work	27.3	36.0	42.9
Certificate	18.2	36.0	21.4
Major in child development	0.0	4.0	21.4
	100.0%	100.0%	100.0%

The behavioral data show a rather similar pattern for small and large centers. Both are lower on encouragement and higher on restriction than are the medium-size centers and thus closer to the Restraint pole of Pattern I for center program. They are high on lessons in rules of social living and control and restraint, but low in pleasure, dealing with other children, creativity, and self-sufficiency.

This curvilinear relationship between center size and teacher behavior is unexpected in view of the other relationships between variables established in this and preceding chapters. These relationships constitute a predictive framework which can be summarized as follows:

	Small centers	Large centers
Program format:	Teacher-directed/ free play	Free play
Type of setting:	Crowded	Roomy
Role concept:	Adult-centered	Not adult-centered
Special training:		
Teachers	Less	More
Directors	Little	Much

All of the variables associated with small size of centers are those which have been previously described as tending to be associated with center program in which teachers are characteristically restrictive, low in encouragement and active in prescribing forms of behavior for children. These predictions hold up quite well for small centers.

However, the predictors for program in large centers would lead us to expect teacher behavior which is high in sensitive teacher manner, encouragement, and the lessons which usually accompany these behaviors. Instead, we find program which is high in guidance, control and restraint, and rules of social living, and quite high on restriction. Moreover, teachers and directors in large centers are lower in warmth and much less likely to report permissive feelings about affection than staff in small centers. Previous data on the effects of role concept and special training on teacher behavior and attitudes would lead us to predict the opposite relationship.

Apparently size of center operates as a limiting factor which directly affects staff attitudes and behavior. The increased number of relationships and concomitant organizational complexity of large centers seem to leave staff less free for warm and accepting relationships with children. In contrast, small centers appear to draw staff and children into closer proximity with the potential of closer relationships, as indicated by absence of constant grouping, absence of roomy settings, and frequent participation in teaching by the director.

In comparison with variables previously discussed, size of center appears to regulate performance more powerfully than program format, expressed attitudes, or amount of special training.

Sponsorship

There are few differences in teacher behavior according to sponsorship. (See Table 100.) The only significant difference is in total amount of teacher direction, which is lowest in public centers. The categories of encouragement and restriction show no significant difference.

TABLE 100

TEACHER BEHAVIOR BY SPONSORSHIP

(Figures are mean frequencies)

CATEGORIES OF TEACHER BEHAVIOR	SPONSORSHIP		
(N=50 centers)	Proprietary (N=30)	Non-profit (N=5)	Public (N=15)
Total Encouragement to Individuals	21.2	24.9	23.4
Total Teacher-Direction to Individuals	8.6	8.3	5.6
Total Guidance to Individuals	24.1	22.5	24.9
Total Restriction to Individuals	7.4	6.7	7.0
Total Neutral to Individuals	14.5	12.1	15.6
Total Verbal Skills to Individuals	8.3	10.0	9.8

Significant at * .05 level (F ratio)

Lessons taught appear equally unaffected by sponsorship. (See Table 101.) No significant differences in lessons taught were found, although some difference is indicated in lessons on verbal-physical coordination, consideration, and dealing with strong emotions.

Table 102 shows differences in teacher manner according to sponsorship. Public centers have a higher percentage of teachers in the sensitive category; however, one-fifth of these centers rate as insensitive in teacher manner. The overall differences in teacher manner by sponsorship are slight.

TABLE 101

LESSONS TAUGHT BY SPONSORSHIP

(Figures are mean percentages.)

LESSONS TAUGHT (N=50 centers)	SPONSORSHIP Proprietary (N=30)	 Non-profit (N=5)	 Public (N=15)
Physical Skills			
Large muscle	1.9%	1.6%	2.1%
Eye-hand coordination	5.8	1.8	2.3
Verbal-physical coordination	8.1	5.4	5.4
Social Skills			
Rules of social living	14.4	13.4	11.0
Dealing with other children	4.0	7.0	6.1
Consideration	7.1	14.2	11.5
Intellectual Skills			
Formal skills	12.5	16.2	11.2
Knowledge and awareness	9.5	6.2	9.3
Pleasure, awe and wonder	6.9	6.4	7.3
Self-Responsibility			
Self-sufficiency	7.3	6.8	11.7
Creativity and experimentation	7.5	6.4	9.2
Control and restraint	14.7	13.4	11.3
Dealing with strong emotions	0.3	0.2	1.3
	100.0%	100.0%	100.0%

TABLE 102

TEACHER MANNER BY SPONSORSHIP

TEACHER MANNER (N=50 centers)	SPONSORSHIP Proprietary (N=30)	Non-profit (N=5)	Public (N=15)
Sensitive	20.0%	40.0%	40.0%
Friendly	16.7	0.0	13.3
Neutral	40.0	60.0	26.7
Insensitive	23.3	0.0	20.0
	100.0%	100.0%	100.0%

In contrast, program format does appear to be influenced by sponsorship. (See Table 103.) Proprietary centers seldom use a free choice format, while no public center had a teacher-directed/free play format, the one most commonly found in proprietary centers.

TABLE 103

PROGRAM FORMAT BY SPONSORSHIP

PROGRAM FORMAT (N=50 centers)	SPONSORSHIP Proprietary (N=30)	Non-profit (N=5)	Public (N=15)
Free play	23.3%	40.0%	40.0%
Free choice	9.9	20.0	40.0
Teacher-directed/free play	40.0	40.0	0.0
Teacher-directed	26.7	0.0	20.0
	100.0%	100.0%	100.0%

Perhaps because of differences in program format, certain differences in tempo appear to be related to sponsorship. No public center was found to have tempo ratings which were consistently average or stimulating. All these ratings were confined to proprietary or non-profit centers. (See Table 104.)

TABLE 104

TEMPO BY SPONSORSHIP

TEMPO (N=50 centers)	SPONSORSHIP Proprietary (N=30)	 Non-profit (N=5)	 Public (N=15)
Unclassified	56.7%	20.0%	60.0%
Relaxed	3.3	20.0	40.0
Average	26.7	40.0	0.0
Stimulating	13.3	20.0	0.0
	100.0%	100.0%	100.0%

Sponsorship and Attitudes and Other Characteristics of Staff

Teachers' attitudes toward authority show some relationship to sponsorship. Directors who prefer permissive situational authority are found almost entirely in public centers. Preference for arbitrary authority is similar for proprietary and public centers, but much higher for centers under non-profit sponsorship (however, the N is small). (See Table 105.)

Amount of training varies for both teachers and directors by sponsorship. Staff in proprietary centers have less special training than either teachers or directors in public centers. The N for non-profit centers is small and amount of training appears to be variable. (See Table 106.)

TABLE 105

RELATIONSHIP OF TEACHER ATTITUDES TOWARD AUTHORITY TO SPONSORSHIP

TEACHER ATTITUDES TOWARD AUTHORITY	SPONSORSHIP					
	Proprietary		Non-profit		Public	
(N=104 teachers) (N=50 directors)	Tchr. (N=59)	Dir. (N=30)	Tchr. (N=11)	Dir. (N=5)	Tchr. (N=34)	Dir. (N=15)
Permissive	6.8%	13.3%	0.0%	20.0%	23.5%	13.3%
Conservative	47.4	46.7	27.3	0.0	35.3	66.7
Arbitrary	45.8	40.0	72.7	80.0	41.2	20.0
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

TABLE 106

RELATIONSHIP OF SPECIAL TRAINING OF TEACHERS AND DIRECTORS TO SPONSORSHIP

SPECIAL TRAINING OF DIRECTORS & TEACHERS	SPONSORSHIP					
	Proprietary		Non-profit		Public	
(N=50 centers)	Tchr. (N=59)	Dir. (N=30)	Tchr. (N=11)	Dir. (N=5)	Tchr. (N=34)	Dir. (N=15)
None	37.3%	23.3%	27.3%	20.0%	14.7%	6.7%
Workshops	16.9	13.3	0.0	20.0	0.0	0.0
Some course work	37.3	43.3	45.5	40.0	55.9	20.0
Certificate	5.1	16.6	27.3	0.0	17.6	60.0
Major, child development	3.4	3.3	0.0	20.0	11.3	13.3
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Sponsorship and Type of Services Offered

Centers differ widely in the services which they offer to the public. Some offer only day care five days a week. In addition to this basic service, centers also may offer extended day care for school age children or a one-half day nursery school program. To these variations can also be added the possibility of taking children for one or more days, or at any irregular hours which meet the needs of mothers. The frequency with which we encountered these programs in our sample was as follows in Table 107.

TABLE 107

TYPE OF SERVICES OFFERED BY CENTERS

TYPE OF SERVICES	
Center offers only weekly day care for preschool children	36.0%
Center offers weekly day care and extended day care for school age children	26.0
Center offers day care only--either weekly or part time	14.0
Center offers both day care and nursery program both weekly and part time	18.0
Center accepts both preschool and school age full time or part time	6.0
	100.0%

Table 108 shows the relationship of type of service offered to both size and sponsorship of center. It can be seen that type of service offered has a slight relation to size, but considerable relation to sponsorship. Public centers are permitted by statute to offer only day care for preschool and/or school age children. Both proprietary and non-profit centers have cogent economic reasons to offer the services which are most in demand in their neighborhoods. The five non-profit centers are omitted from Table 108. Four offered day care only; the fifth, a large center in a suburban church, offered nursery and day care, both part and full time.

TABLE 108

RELATIONSHIP OF TYPE OF SERVICES TO SPONSORSHIP AND SIZE OF CENTER

TYPE OF SERVICES	SIZE OF CENTER						
	Under 31		31 - 60		Over 60		
	Public	Proprietary	Public	Proprietary	Public	Proprietary	Total
(N=45 centers)	(N=1)	(N=9)	(N=7)	(N=15)	(N=7)	(N=6)	
Day care service only							
Day care, preschool children only	0	3	5	4	3	2	17
Day care, preschool, extended	1	1	2	2	4	0	10
Day care, full and part time	0	2	0	4	0	1	7
Day care and nursery							
Nursery and day care, full and part time	0	3	0	4	0	1	8
All ages, all time	0	0	0	1	0	2	3

Large public centers are most likely to offer extended day services. (Our N is small, but this statement is probably true.) Four out of six of the large proprietary centers offer services other than day care only. As the size of a center increases, the frequency with which other services are offered appears to increase.

Type of care does not appear to produce a marked effect on teacher performance either in regard to teacher behavior, lessons taught, or teacher manner. There do, however, appear to be certain substantial differences in program format and attitudes of personnel depending on whether the type of service offered is day care only, or a combination of day care and half-day nursery school.

Table 109 indicates that centers which offer day care only may use any of the program formats. In contrast, centers which offer combined services were not found to use a free choice format. Instead they rely heavily on teacher-directed/free play or a free play format; these two formats account for 75 per cent of these centers.

TABLE 109

PROGRAM FORMAT BY TYPE OF SERVICE

PROGRAM FORMAT	TYPE OF SERVICE	
(N=50 centers)	Day care only (N=38)	Day care and nursery school (N=12)
Free play	28.9%	33.3%
Free choice	26.3	0.0
Teacher-directed/free play	23.7	41.7
Teacher-directed	21.1	25.0
	100.0%	100.0%

Although there were no differences in other attitudes, attitudes of directors toward dependency appear to show some relationship to type of service offered. Directors offering services in addition to day care appear to be somewhat more permissive of dependency than those offering day care only. Again, we suggest that dependency is more of a problem in these centers, because of the number of children who are there for short or irregular hours. (See Table 110.)

TABLE 110

RELATIONSHIP OF DIRECTOR ATTITUDE TOWARD DEPENDENCY TO TYPE OF SERVICES

DIRECTOR ATTITUDE TO DEPENDENCY	DAY CARE SERVICE ONLY	DAY CARE AND NURSERY SCHOOL
(N=50 centers)	(N=38)	(N=12)
Permissive	36.8%	25.0%
Moderately permissive	44.7	75.0
Not permissive	18.4	0.0
	100.0%	100.0%

Sponsorship and Grouping Practices

We have already described the relationship of grouping practice to size of center. This relationship also varies by sponsorship. Both proprietary and non-profit centers use all forms of grouping practice, but no public center was encountered in which children were ungrouped. (See Table 111.)

Several significant differences besides size and sponsorship appear related to grouping practice. Teaching directors are found most frequently in centers which are essentially ungrouped. Seven of nine directors in ungrouped centers express high warmth. Also, ungrouped centers more often have crowded settings. The combination of actively involved directors of high warmth working in settings which bring participants into close contact may explain the significantly higher incidence (.05) of approval/nurturance found in ungrouped settings.

TABLE 111

RELATIONSHIP OF GROUPING PRACTICE TO SPONSORSHIP

GROUPING PRACTICE (N=50 centers)	SPONSORSHIP Proprietary (N=30)	Non-profit (N=5)	Public (N=15)
Basically grouped	16.7%	20.0%	40.0%
Occasionally ungrouped	56.7	60.0	60.0
Ungrouped	26.7	20.0	0.0
	100.0%	100.0%	100.0%

Sponsorship and Men in Centers

One striking difference between public centers and others is the opportunity for exposure to men. (See Table 112.) We noted the presence of men in centers and also classified them according to the role which they played. A classification of exceptionally strong meant that they actively participated in the program and were known to the children individually in a strong and fatherly male role. The next classification (strong) most often was applied to an owner who represented male authority, but did not actively participate in the program. A classification of weak referred to janitors, college students, or other men who were present, but not in a fatherly or authoritative male role. Almost 40 percent of both proprietary and non-profit centers offered children the opportunity for close contact with a man in an authority role. This opportunity occurred in only one public center, in which the custodian assumed a grandfather role with the children (apparently accepted and encouraged by the director) and spent large amounts of time with them.

TABLE 112

RELATIONSHIP OF MEN IN CENTERS TO SPONSORSHIP

MEN IN CENTERS	SPONSORSHIP		
(N=50 centers)	Proprietary (N=30)	Non-profit (N=5)	Public (N=15)
Exceptionally strong role	13.3%	20.0%	0.0%
Strong role (owner)	23.3	20.0	6.7
Weak (peripheral)	20.0	0.0	20.0
None	40.0	60.0	73.3
Don't Know	3.3	0.0	0.0
	100.0%	100.0%	100.0%

Sponsorship and Amount of Director Authority

In our previous study (Prescott, 1964, 1965) we noticed the differing amounts of authority which were invested in the role of director. In this study we attempted to ascertain the amount of the director's authority by asking the following questions:

> Do you have a board or advisory group to whom you report?
>
> How do you go about obtaining a new teacher?
>
> If a teacher's performance is unsatisfactory, what do you do?

> If you had a question about a matter concerning the center, to whom would you turn for advice?

If a director reported to no one, hired and fired teachers without recourse to another's opinion, and if she sought advice from persons not in a supervisory role, we rated her authority as full. If she sought or was required to obtain approval in these areas we rated her authority as moderate. If she made it clear that she deferred in all these matters to supervisory figures, her authority was rated as limited.

Amount of authority differed primarily by sponsorship. (See Table 113.) Directors of proprietary centers clearly had the greatest amount of authority. Unless a director in a public center was in an unusual position (typically, long tenure in a small district) her authority was moderate, and many directors of public centers viewed their authority as limited.

TABLE 113

RELATIONSHIP OF DIRECTOR'S AUTHORITY TO SPONSORSHIP

DIRECTOR'S AUTHORITY	SPONSORSHIP		
(N=50 centers)	Proprietary (N=30)	Non-profit (N=5)	Public (N=15)
Full	93.3%	40.0%	13.3%
Moderate	6.6	40.0	60.0
Limited	0.0	20.0	26.7
	100.0%	100.0%	100.0%

Socioeconomic Status of Clientele

We divided centers into four categories according to socioeconomic status (SES) estimated on the basis of a previous study (Prescott, 1965). Centers which primarily serve parents with college degrees and professional occupations were ranked SES I. Those which primarily serve stable two-parent families with good income and employed typically in white collar occupations were rated SES II. Those primarily serving families with high school education, or one-parent families where the mother held a clerical position were rated SES III. Those centers rated SES IV primarily served one-parent families in which the mother was employed in a small factory or as a domestic and had attained no more than a high school education.

Table 114 shows socioeconomic differences of clientele by sponsorship of centers.

TABLE 114

RELATIONSHIP OF SOCIOECONOMIC STATUS OF CLIENTELE TO SPONSORSHIP

SOCIOECONOMIC STATUS OF CLIENTELE	SPONSORSHIP		
(N=50 centers)	Proprietary (N=30)	Non-profit (N=5)	Public (N=15)
SES I	16.6%	0.0%	0.0%
SES II	56.7	40.0	0.0
SES III	26.7	40.0	80.0
SES IV	0.0	20.0	20.0
	100.0%	100.0%	100.0%

Proprietary centers do not serve the lowest SES group, nor do public centers serve families of higher SES. Centers under all forms of sponsorship serve parents of moderately low socioeconomic status. As described in our previous study, (Prescott, 1965, p. 4) parents within this range conceivably can choose among centers by sponsorship in selecting day care for their children.

Type of service offered also is related to SES. (See Table 115.) Parents in the lower socioeconomic group most often place their children in a program which offers only day care services. Parents in the higher SES groups can select a center which also offers a nursery school (half-day) program.

TABLE 115

RELATIONSHIP OF SOCIOECONOMIC STATUS OF CLIENTELE TO TYPE OF SERVICES

SOCIOECONOMIC STATUS OF CLIENTELE	TYPE OF SERVICES		
(N=50 centers)	Day care, pre-school extended (N=31)	Day care, full part time (N=7)	Also nursery school (N=12)
SES I	6.4%	0.0%	25.0%
SES II	22.6	57.1	66.7
SES III	58.1	42.9	8.3
SES IV	12.9	0.0	0.0
	100.0%	100.0%	100.0%

Our sample shows no strong relationship between SES and size of center. However, we feel that the trend shows a relationship which probably prevails, namely, that many small centers primarily serve parents who are eligible for public child care but do not use it, as well as two-parent families in relatively moderate circumstances. (See Table 116.)

TABLE 116

RELATIONSHIP OF SOCIOECONOMIC STATUS OF CLIENTELE TO SIZE OF CENTER

SOCIOECONOMIC STATUS OF CLIENTELE (N=50 centers)	SIZE OF CENTER Under 31 (N=11)	31 - 60 (N=25)	Over 60 (N=14)
SES I	0.0%	12.0%	14.3%
SES II	45.5	48.0	14.3
SES III	45.4	36.0	57.1
SES IV	9.1	4.0	14.3
	100.0%	100.0%	100.0%

While there were no noteworthy differences in the categories of teacher behavior, there were some differences in lessons taught according to SES. (See Table 117.) There are significant differences in two of the three physical skills. Large muscle skills are most often encouraged in centers serving children from the lowest SES, while eye-hand coordination is markedly higher in centers serving children of college-educated parents.

There are two other differences which are not statistically significant, but are worth considering for the effect which they might produce if they held to be true for a larger sample. One is the low frequency of lessons in pleasure, awe and wonder for low SES children. The other is the consistent increase of lessons in self-sufficiency as SES drops. If these relationships do exist they would indicate that low SES children probably are learning early independence and looking to their peers for pleasure and help rather than to adults. Neither of these learnings would be expected to be predictive of success in elementary school.

TABLE 117

LESSONS TAUGHT BY SES OF CLIENTELE

(Figures are mean percentages)

LESSONS TAUGHT	SES OF CLIENTELE			
(N=50 centers)	I (N=5)	II (N=19)	III (N=22)	IV (N=4)
Physical Skills				
Large muscle*	2.6%	1.1%	1.5%	7.8%
Eye-hand coordination**	14.0	4.2	1.8	6.8
Verbal-physical coordination	7.0	7.6	6.7	6.3
Social Skills				
Rules of social living	13.2	12.7	14.4	10.0
Dealing with other children	3.4	4.9	5.0	6.8
Consideration	7.8	8.8	10.0	7.5
Intellectual Skills				
Formal skills	8.2	12.5	13.8	10.8
Knowledge & awareness	10.2	10.1	7.7	10.8
Pleasure, awe & wonder	6.2	7.2	7.6	2.8
Self-Responsibility				
Self-sufficiency	4.2	7.7	9.6	12.8
Creativity and experimentation	8.4	8.7	7.3	7.3
Control & restraint	14.6	13.9	13.8	9.3
Dealing with strong emotions	0.0	0.4	1.0	0.5
	100.0%	100.0%	100.0%	100.0%

Significant at ** .01, * .05 level (F.ratio)

Summary

Size of center appears to regulate teacher performance within the center, either facilitating or inhibiting warm interaction despite expressed attitudes of staff and program format.

Sponsorship does not appear to determine teacher performance or program, but it is a powerful regulator both of the characteristics of persons who come together in a center and the range of experience which is open to them as a result. Sponsorship determines, to a great extent, the amount of training completed by directors and teachers in the center, and the SES of its clientele. Proprietary centers are more likely than others to be small in size, keep children ungrouped by age, have directors who participate in teaching, have men present to assume a father role with children, and offer morning-only nursery school experience to some children in addition to full day care for the rest.

In the chapter which follows we shall consider further the variety of experience which centers offer based on the quality of the physical environment.

CHAPTER VIII

PHYSICAL SETTINGS IN DAY CARE CENTERS: TEACHERS, PROGRAM AND SPACE

by Sybil Kritchevsky

Introduction

One of the goals of this study has been to consider the effect of physical space on program. We began with the premise that settings in which events and behavior occur possess inherent regulatory features. These features stem from the purposes for which the setting exists and also from its physical attributes. Certain attributes (indoor or outdoor; number of people in the setting; time of day; amount of space available--i.e., crowded or roomy) were noted on our original observations of teacher behavior. As observation progressed, all of the staff became aware that these dimensions were inadequate to describe the effect of the physical setting. We began to see great variation in both content and arrangements of space, and to suspect that much child and teacher behavior was related to this variation.

In some centers, teachers seemed almost harassed and spent much of their time suggesting activities, directing or restricting children. Such teachers seemed to have little or no opportunity to watch the children at play, and to select appropriate moments to extend children's play with new ideas, related equipment or relevant concepts (i.e., to offer encouragement of child-initiated activities). Some play areas seemed to hold relatively little interest for children, who consequently spent less time with equipment and more time roaming the empty space. Other spaces seemed overcrowded, with either equipment or children, so that there was repeated interruption of any play that was occurring. Still others had large empty areas where we frequently saw children roughhousing and then being restricted and/or redirected by teachers.

It appeared to the observers that much of the children's behavior was being determined by what was in the space and how it was arranged. Some teachers rarely had much choice in their behavior, being continually forced into immediate responses to what the children were doing. On the other hand, the same spatial content and arrangement which kept the children highly involved in play also provided time for teachers to observe their group and to choose when and how to interact with the children.

Accordingly, midway through the research an exploratory study was initiated for the purpose of delineating spatial characteristics, particularly along the dimensions of interest, organization, and use, so that we could:

1. describe center space, estimate its relative quality, and make comparisons between centers;

2. determine the relationship between physical setting and other dimensions examined in the study, particularly children's and teachers' behavior;

3. describe the kinds of physical setting that might best meet the needs of children and their teachers in full day care; and

4. contribute to the development of a general analytic framework within which the effect of many settings designed for preschoolers might be better understood.

The initial perception of "differences in settings" and its elaboration into a conceptual underpinning for the methodology of this sub-study, were influenced from three sources: (1) a particular point of view about child development and the role of the teacher in supporting this development (see Chapter II); (2) ideas about the special needs of children in full day care (see Chapter II); and (3) an exploration of the literature from a variety of disciplines. Several studies have connected children's behavior with spatial factors (Johnson, 1935; Jersild and Markey, 1935; Murphy, 1937; Muste and Sharpe, 1947; Body, 1955), but no single previous study was found which defined and measured all those areas we felt were important.

The fields of architecture and landscape architecture produced discussions of halls, pathways, the purposeful organization of space, and the capacity of space to direct, or fail to direct, the human movement expected within it (Wu, 1963; Kennedy, 1953; Encyclopedia Britannica). The ideas of

Barker (1963) on psychological ecology and Hall (1966) on proxemics ("interrelated observations and theories of man's use of space as a specialized elaboration of culture") were also most helpful. The literature in nursery education, particularly Read (1955), has influenced our ideas about equipment.

Definitions

We developed some descriptive concepts related to the two aspects of space with which we were concerned: contents, and the empty space around and between those contents. The contents with which we are primarily concerned are play units and potential units. A play unit is a piece of play equipment and the space around it necessary to its use. (Storage sheds, shade trees, bushes, and so on may on occasion meet the criteria for play or potential units.) For example, the jump-off-walk-around space which surrounds a slide, and the space outside a jungle gym where children swing their legs or stretch their arms, belong to the play unit. These spaces are not really free for other uses. If other children need to use this space to move through the yard, there will quite naturally be conflicts and interruptions of play.

A boundary is the outer edge of a play unit (or a yard). Some boundaries are easily determined. They have solid edges and are tangible and/or visible, like the closed sides of a playhouse or storage shelves, or the line where concrete and dirt touch one another. Other boundaries are intangible and not visual and must be approximated, such as the outer edge of the space around a unit necessary to that unit's use. All boundaries have vertical as well as horizontal dimensions. Thus the boundary of a sand box would be intangible, about three feet out from each side, and as high as the tallest child. Boundaries of units overlap if a child on one unit can reach a child on another unit.

A potential unit is empty space with boundaries that are in large part tangible and/or visible. Common potential units are bare tables, a bare rug, the shaded area under a tree or umbrella, and cozy spaces among bushes or under stairs. Potential units can provide flexibility for teachers and allow for greater spatial variety from day to day. However, an unrecognized potential unit can be a source of trouble. Access to space under stairs, if off limits, may need to be boarded up. When the space between bushes invites children into a forbidden area between the fence and a long row of bushes, the space may need to be closed off in some way, perhaps by the solid back of a play unit across the opening.

We divided play units into three kinds on the basis of the relative number of children they can accommodate at one time and their relative capacity to keep children interested:

> Simple unit: a play unit that has one obvious use and does not have sub-parts or a juxtaposition of materials which enable a child to manipulate or improvise. (Examples: swings, jungle gym, rocking horse, slide)
>
> Complex unit: a play unit with sub-parts cr juxtaposition of two essentially different play materials which enable the child to manipulate

or improvise. (Examples: sand table with digging equipment, play house with supplies) Also included in this category are single play materials and objects which encourage substantial improvisation and/or have a considerable element of unpredictability. (Examples: all art activities such as dough or painting; a table with books to look at; an area with animals, such as a dog, guinea pigs, or ducks)

Super-unit: a complex unit which has one or more additional play materials; i.e., three or more play materials juxtaposed. (Examples: sand table with play materials and water; tunnel, movable climbing boards and boxes, and large crates)

Super-units accommodate the most children at one time and hold their interest longest; complex units rank second and simple units third. Some conflict in yards was seen to be related to the presence of unrecognized complex and super-units. A table with kitchen equipment placed a foot or two from a sand box is a super-unit to a child, and if sand must stay in the sand box, it is wise to move the table either away from or into the sandbox.

Our ideas about the free space around and between the units in a play space can be discussed in terms of paths. A path is the space that children use to move from where they are to where they want to go; a clear path is broad, elongated, and easily visible. It helps children move quickly and directly from one place to another, and it clearly separates units from one another. While paths are rather difficult to describe in words, when they exist they are very easily seen. If an observer looking at a play yard asks himself, "How do the children get from one place to another?" and can't answer easily, then probably the children can't either, and there is no clear path.

Paths may be unclear for a variety of reasons, and it sometimes helps to watch children at play. The adult who kneels down himself and places his eyes at a child's level can better see just where and how clear the path really is. In one large yard that we visited, children often ran through a centrally placed sand box. From an adult height the sandbox certainly was visible. But from the height of the child, looking at the inviting high-climbing equipment beyond, the sand box was very difficult to see and it made perfectly good four-year-old sense to run straight across the yard, through the suddenly-present sand box, and on to the jungle gym. The same sort of principle seemed to be operating where children regularly walked under a U-shaped climbing and hanging ladder. Here the children were sighting tricycles beyond the ladder unit, and with eyes focused at trike-level they were walking a direct route under the apparently unseen ladder to their goal.

Sometimes in order to provide adequate visibility for the path, the teacher must plan to make play units and their boundaries more clearly visible. Jungle gyms, ladders, and the like occasionally camouflage themselves, and it may be necessary to surround them with more empty space, or place them near a solid fence or tall green bushes in order to make them clearly visible. The sand box described above would benefit greatly from a high open-lattice roof; sun could still shine through, and the several roof supports and the roof itself would make the sand box clearly visible. (Sand box roofs need to be high enough to give children the sense of freedom they need to stand and stretch and move with ease.)

A total absence of path because of too much equipment placed too close together is very evident. The adult can not see a path, and neither can the children. There is always some empty space in which the children move around, but in this kind of yard children will bump into one another and will interfere, accidentally and often, in one another's play.

Some yards lack a path for another reason. They have what we have called dead space, a large amount of empty space, roughly square or circular in shape. Dead space is usually at least partly in the central area of the yard. Play units may be far enough from one another to create partial paths here and there, but entering this dead space becomes a special kind of trap for children. Partial paths will lead children into, but not out of, dead space; instead, disorganized running and wrestling activity often develops, and adults have to restrict and/or redirect the children involved. (Again, this is a hard concept to put into words, but we feel teachers who work around this kind of space will readily recognize it.)

Dead space can be eliminated in a variety of ways. The addition of a play unit may help, or the moving of a fence. It is sometimes possible to extend other units into the space; boxes and boards can be added to a jungle gym or a rug placed in front of the play house. Much equipment can be shifted, extended, or added so as to develop an elongated space for the pathway. But it seems to us that somewhere worth going (interesting, varied equipment) is needed to make a path function at its best.

Figure 2 shows how equipment is placed in one yard so as to provide a clear path. The yard is used by eighteen four-year-olds and supervised by one teacher in a free choice program format. Without the jungle gym and boards and boxes (or some equipment) in that particular spot, the yard would probably have had dead space in the center. The cement patio area was a potential unit and was so used consciously by the teacher. On another day when we observed, a play house area and "stagecoach" were set up, one at each end of the patio, and empty table C then functioned as a boundary between the two units. Most of the yard is hard packed dirt, and the tricycle riding area is the central part of the pathway. The path itself is clear, broad, and allows easy access to all parts of the yard.

We are including Figure 3 to show a different kind of tricycle area, and an example of what might look like too narrow a path with boundary overlap, but is in fact a potential complex unit.[1] The yard is used by ten children, 2½ to 3½, and supervised by one teacher in a free choice program format.

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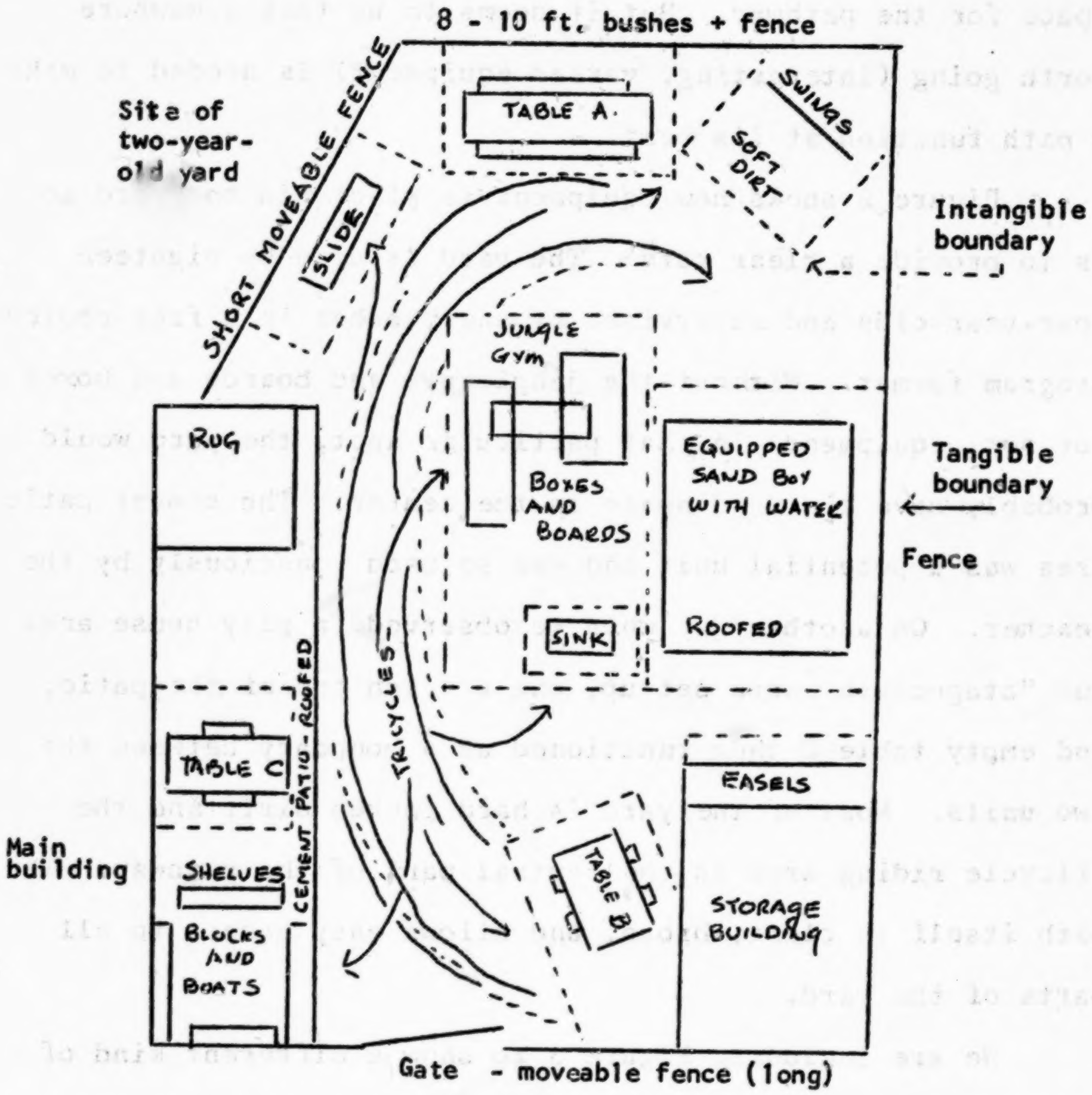
[1] Potential complex units were very rare in the yards we observed and so are not a separate category in the results.

Figure 2


8 - 10 ft. bushes + fence
Site of two-year-old yard
SHORT MOVEABLE FENCE
TABLE A
SWINGS
SOFT DIRT
SLIDE
Intangible boundary
JUNGLE GYM
BOXES AND BOARDS
RUG
EQUIPPED SAND BOX WITH WATER
Tangible boundary
Fence
SINK
ROOFED
TRICYCLES
CEMENT PATIO - ROOFED
TABLE C
EASELS
Main building
SHELVES
TABLE B
STORAGE BUILDING
BLOCKS AND BOATS
Gate - moveable fence (long)

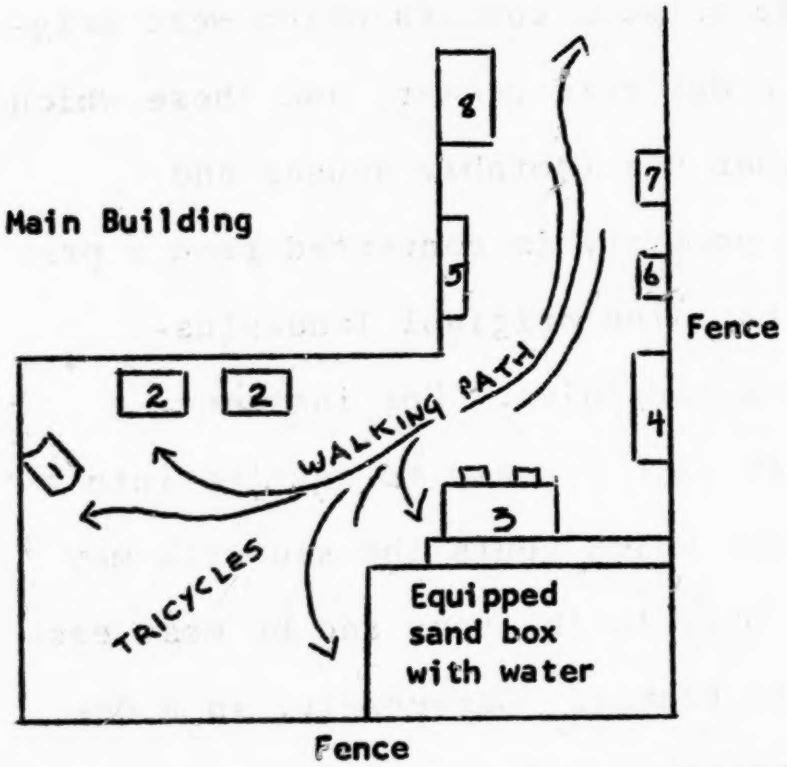
Simple units
swings
slides
tricycles

Super-units
blocks plus boats
sand box

Complex units
table B - fingerpaint
table C - two puzzles
jungle gym + boxes and boards
sink - with dishes plus water
easels with paint

Potential units
rug
table A

Figure 3



1. crawl barrel
2. packing crates
3. table (generally complex)
4. car-train with steering wheel
5. low cradle, large enough for one child
6. crate "sink"
7. crate "stove"
8. equipment storage

The path between the sink and stove and the cradle is narrow, and children, because they face the fence, usually begin by playing alone. But because of the closeness of equipment and the ease with which children can touch one another, what began as parallel play was frequently seen to develop into cooperative "house" play, eliminating this end of the path as such.

If, instead of the cradle, an easel were set up at this point, the path would be analyzed as non-existent in this part of the yard because of boundary overlap between painting and house play. While we feel this is a uniquely appropriate development of space for younger children, older children would probably need more house equipment and a clearer definition of the "house" boundary.

A distinction was made between centers which were originally designed for use as a day care center, and those which were converted from some other use (notably houses and stores). We felt that when property is converted from a previous use to a day care center, the original land-plus-building combination can be determining. For instance, a house with a front and a back yard is easy to develop into a two-yard center; while a store which abuts the sidewalk may well have its outdoor space only to the rear and be most easily developed into a one-yard center. Conversely, in a designed center there is an opportunity for ideas, about preschool children and their needs, and program and its purposes, to influence selection of land, design of building, placement of building on the land and various aspects of the yards. Many designed centers are such that the present staff can decide whether to have a single or multiple-yard center, since the outdoor space can easily be used as a single yard or divided in two by movable fences. In other words, the past history of the land-building combination has a high likelihood of strongly influencing the present spatial use and quality and therefore the children's and teachers' behavior.

Procedures

Development of Check List for Rating Space

Since Southern California has a mild climate which permits children to spend large amounts of time outdoors, the major play area is usually the outdoor yard. For this reason we gave primary attention to outdoor space, although the specifications are, with slight modification, applicable to indoor space as well. We also rated indoor space in less detail, in order to be able to compare it with characteristics of its associated outdoor space.

A preliminary check list for play yards was developed, and the six members of the research staff used it independently in four play yards. In addition, each person drew a map of each yard. Subsequent discussions resulted in refinement and agreement on concepts and their definitions, and a final check list was developed. All staff members then visited a fifth play yard and their disagreements were noted, discussed, and resolved.

The final check list provided information in the following areas: (see Appendix C4 for detailed form).

1. Center use of outdoor space: number of yards, distance between yard and building, number of adults per yard, number of children per yard and their age.
2. General appearance of the yard: shape, composition of surface of yard, relative size, and what can be seen beyond the yard.
3. Functional characteristics of the yard: yard boundaries and pathways, proportion of yard covered by physical objects, presence of special problems--such as lack of shade, or broken equipment.
4. Yard contents: a detailed listing by name of play equipment and other contents, made under the categories of simple, complex, and super-units, potential units and miscellaneous. For each play unit, the type of boundaries and whether or not it was fixed were also noted.

5. Indoor space: relative amount of space, relative amount of equipment, ease of movement through the building (Is space functional?), and noise level.

The Sample

All observations of teacher behavior and interviews had already been completed when the staff was assigned to revisit centers in rotating pairs to rate for physical space. We felt that gathering information on space after our other activities had been completed tended to reduce any "halo effect" that might result from concurrent space and teacher observations. Observer pairs were instructed to rate each yard and its associated indoor space independently, and then reconcile any differences in their ratings. A single rating for each yard plus its indoor space, and a basis for estimating reliability were thus obtained at the same time. Where feasible, ratings were made from adjacent sidewalks or alleys so as not to disturb program. Occasionally, where the yard could not be seen easily, the observers approached directors for permission to enter the yards.

Our sample is taken from the fifty centers in the major study, with several modifications. We eliminated five centers from any revisiting because we felt our reappearance would be unwelcome, even on a sidewalk adjacent to the yard. Forty-five centers with seventy-nine yards were revisited. We had to eliminate ten yards from study for a variety of reasons, ranging from reconstruction to lack of clarity of yard boundaries, which was so pronounced in one large center that observers were able to rate only two of its four yards.

Our final sample for space analysis, then, consists of sixty-nine yards, and their associated indoor space, at forty-five centers.

Reliability

This study of space has been primarily exploratory, and some information on the rating scale is in the form of observer impressions and judgments of relative amount. Many of our definitions were necessarily far from rigorous when the data were gathered, and it is only in retrospect that we can define some of our dimensions adequately and designate with some feeling of surety what needs to be accounted for, and how precisely, in understanding space.

Reliability of ratings was generally adequate, and use of pooled observations was made when appropriate. In cases of data on a continuum, observers were never more than one point away from one another, except in one instance where one observer was unaware that a yard continued around a corner. Where applicable, sketches of the yard were used to resolve differences in ratings.

In some cases, disagreements between observers were carried as separate categories, or categories were redefined so as to include disagreements. Paths presented a particularly difficult problem. We began by looking for differences in shape and asked all observers to sketch yards and pathways. From the sketches and observer commentary on the schedule it became obvious that differences in shape were unimportant. As finally defined, paths were present throughout the yard, only in part of the yard, or not there at all. The yard content was defined as the total of all the different things both observers reported. We assumed that it is easy to overlook one item among twenty but difficult to invent items not actually present.

There are additional reasons for feeling confidence in the reliability of our data. First, the observers had been visiting day care centers for some time and were well qualified to make certain judgments such as relative amount of (indoor) equipment and the conflict-potential of equipment arrangement. Indoor space was rated from memory, and we felt observers could be expected to remember with reasonable accuracy those aspects that directly affected their work in the center--such as noise level, the functionality of the space, and the relative amount of space.

In some instances we do not know, with the kind of accuracy we would like, just what constitutes an average (or above or below) amount of something. However, we are confident, for instance, that most indoor spaces designated "limited" are smaller than most indoor spaces designated "average," and that most indoor spaces rated as below average in amount of equipment have less than those rated as having an average amount. By and large, we feel our data are sufficiently reliable to allow us to make statements about group differences, though we cannot be sure each individual space is accurately categorized on every dimension.

Finally, we have found a variety of dimensions of teacher and child behavior which vary with spatial differences. We feel these findings tend to confirm the reliability of our method for describing space.

Development of Summary Ratings of Space Quality

Although for the purposes of analysis it is possible to discriminate the sub-parts of a single large space, we assumed that space itself is perceived and responded to as a whole. In other words, no aspect of space exerts its influence independent of its relationship to other parts of that space. We felt that as the content and organization of the space as a whole became less effective in directing children to and holding their interest in play equipment, teacher guidance and restriction would rise, and encouragement would decrease. We therefore selected what we felt were five crucial dimensions: organization, complexity, variety, presence of special problems, and amount to do per child.

A scoring system was devised based on our estimate of the degree to which the rating on each dimension reflected interference with a child's seeing, moving to, and/or staying with equipment. Each dimension was scored as representing (1) Minimum, (2) Moderate, or (3) Maximum interference. The definitions and details of the scoring system are as follows:

1. Degree of organization: The relationship between yard boundaries, pathway, and the amount of yard surface covered with physical objects was used to define yard organization as maximum, moderate, or minimum.

1a. Yard boundaries	Sub-score
Mostly physically defined and easily seen	1
Mostly physically defined but not easily seen because of size or shape	2
Not physically defined in some large part	3

1b. Pathway	
Clearly defined throughout the yard	1
Partial path--path disappears or is partially blocked	2
No path, because of either equipment blocking or dead space	3

1c. Proportion of yard covered by physical objects (This was a difficult judgment for observers. In all but one case, which was averaged, ratings were within one point of one another and were categorized as follows:)

Almost all covered, or almost all (one observer) and 2/3 (one observer)	3
2/3 covered or 2/3 and 1/2 covered	1
1/2 covered	1
1/3 covered, or 1/3 and 1/2 covered	2
Very little covered, or very little and 1/3	3

__Organization__: The sum of the above sub-scores on boundaries, pathway, and proportion of yard covered by physical objects.

	Sum of Sub-scores	Score
Maximum organization	3 or 4	1
Moderate organization	5 or 6	2
Minimum organization	7, 8 or 9	3

(On examination, boundaries proved unrelated to yard quality; consequently, ratings on organization reported in the results are based on pathway and proportion of yard covered only.)

2. Degree of complexity of equipment: The relative number of complex and super-units was used to measure the capacity of a play space to sustain children's interest over a period of time.

	Score
High complex interest: Three or more complex units plus one or more super-units	1
Moderate complex interest: Four or more complex units but no super-units; or two or fewer complex units plus one super-unit (There were no yards with two or fewer complex units and more than one super-unit.)	2
Low complex interest: Three or fewer complex units and no super-units	3

3. Variety of equipment: The number of different kinds of units that the space contained was used to measure the relative capacity of that space to elicit immediate interest from children. Categories included rockers, digging areas, vehicles, climbing equipment, playhouse, etc. (see Appendix for detailed listing). For example, a play yard with twelve vehicles, two sand boxes with digging equipment, a rocking boat and a tumble tub has three different kinds of things. Our sample variety ranged from 4 to 16.

	Score
5 or fewer different units	2
6 or more different units	1

4. Special problems: Categories were developed from data reported on check list under special problems.

	Score
No problem	1
Lack of shade	2
Broken or extremely shabby equipment	2
Both lack of shade and shabby equipment	3

5. Amount to do per child: A ratio between the number of simple, complex and super-units and the number of children in the yard was used to measure amount to do per child. It seemed to us that super-units would hold children's interest longest and provide room for the most children at once; complex units would rank second; simple units third.

> We assigned a value of 4 to complex units on the basis that complex units will generally accommodate about four children at once. Considering the unique potential of super-units we felt they were worth two complex units and so we valued them at 8. Though many simple units can be used by more than one child at a time, the fact that they are less continuously interesting than complex led us to assign a value of 1 to all simple units.[2]

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[2] The implications of this dimension are most easily expressed through an analogy in which play is likened to the game of musical chairs. However, for purposes of the analogy we shall assume that the objective of the game is not to eliminate participants, but to provide each child with a chair each time the music stops. In a game with twenty chairs and ten children, (2.0 chairs per child), when the music stops, children will probably easily find an empty chair without help. If there are ten children and fifteen chairs (1.5 chairs per child), some children will probably have occasional difficulty finding an empty chair. The closer the number of chairs is to the number of children, the more likely will it be that a teacher will need to help children find the empty chairs. If there are fewer chairs than children, either some one (or more) must stand every time the music stops or children must double up on chairs. If the teacher is in charge of the music, shifting from chair to chair will take place for all children at once and be much as described above. However, if the teacher wants the children to listen to their own "inner music", further difficulties are introduced. When the number of chairs is close to one per child, and a child wants to change chairs, choice will be severely limited, and the teacher will probably need to help. If several children want to change chairs in close succession, the demands on the teacher will be extreme.

The difference between 2.0, 1.0 and 0.5 units per child to children and staff can perhaps be "felt into" through this analogy. The first quartile point (1.0) and the median (1.5) of the distribution of this dimension in all yards provided probable points at which this particular limitation on children and staff, would first begin to be felt, and then shift sharply in its implication. Scores were assigned accordingly.

In the example given on page 267 the yard would have 22 units (14 simple and 2 complex); if the yard had eleven children there would be 2 units per child.

Amount to do per child was based on a distribution with a range from 0.3 to 4.1 and a median of 1.5. Cutting points were based roughly on quartiles.

	Score
1.0 and fewer units per child	3
1.1 to 1.5 units per child	2
1.6 and more units per child	1

The scores on each of the above dimensions were summed for each yard, and seven yard quality categories were differentiated on a 7-point continuum ranging from high to low quality. (See Table 118.)

TABLE 118

DISTRIBUTION OF CENTER YARDS BY QUALITY

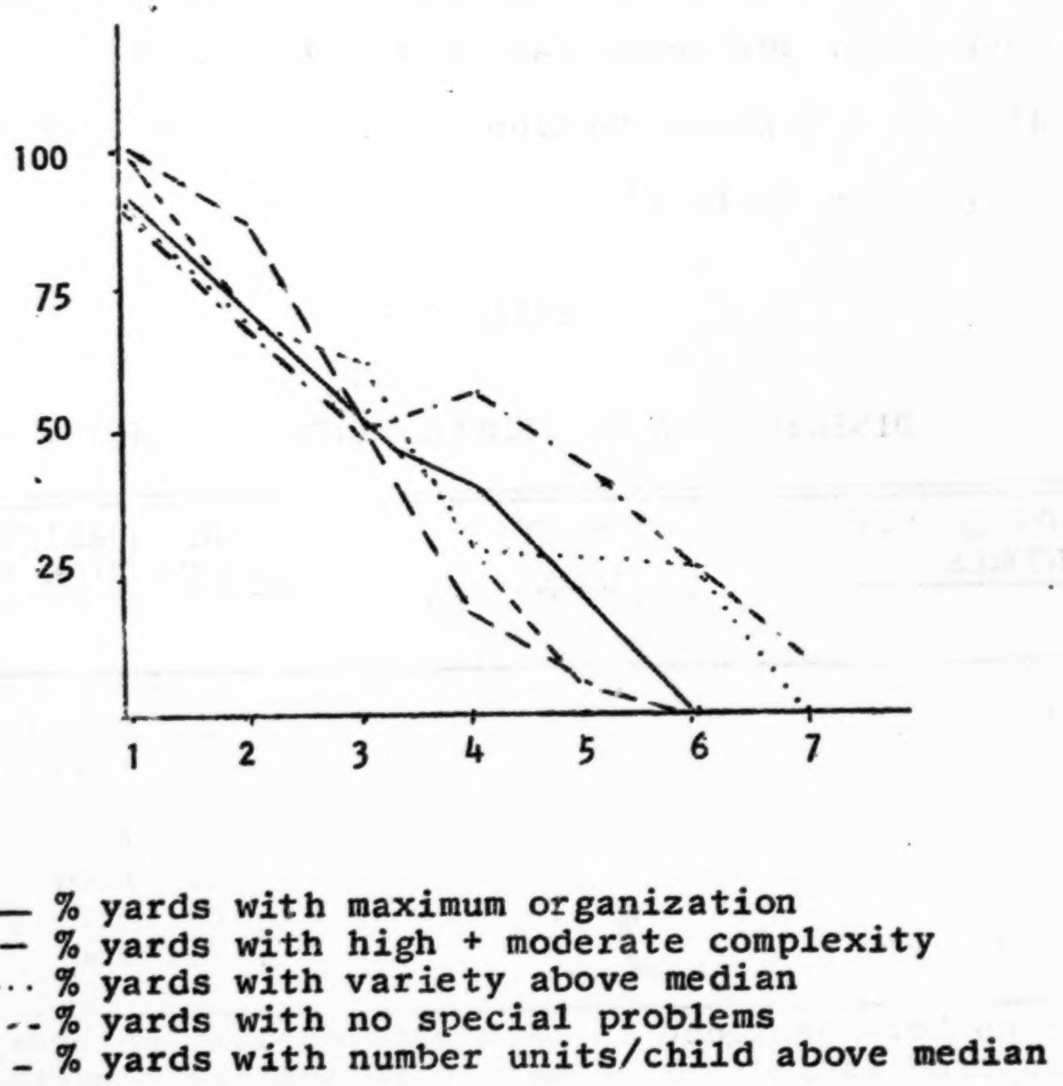
SUM OF QUALITY SCORES	N OF YARDS (Total N = 69)	YARD QUALITY CATEGORY DESCRIPTION AND NUMBER*
5 - 6	9	1. Excellent
7	7	2. Very good
8	17	3. Good
9	14	4. Average
10	9	5. Poor
11	7	6. Very poor
12 - 13	6	7. Bad

* The numbers assigned to each yard quality category have been used as indices of mean yard quality reported in various sections of the results.

It is clear from Figure 4 that each of these variables contributes to the general measure of yard quality. Although we were arbitrary in our scoring system and sometimes failed initially to select appropriate cutting points, it appears that the dimensions selected provide a useful estimate of relative spatial quality.

Figure 4

DISTRIBUTION OF CRITERIA OF HIGH QUALITY IN THE YARD QUALITY CATEGORIES



Two other summary methods for determining the relative quality of space will be found in Appendix C. One relates to indoor quality and the other to overall (indoor plus outdoor) quality. (This is not a direct evaluation of center quality, but applies only to a single yard plus the indoor space with which it is associated.) Our data for indoor space were far more impressionistic and less detailed than that for outdoor space, and for this reason we feel our ratings on indoor and overall quality are reliable only when categorized as above or below the median found in the distribution of the total sample. Although these ratings helped further our understanding of space, we feel the method of yard analysis outlined above is equally applicable to indoor space and can be used to evaluate existing preschool space and to pinpoint areas for improvement.

The space quality of centers was determined from the mean quality of each center's yards. (When yards served disproportionate numbers of children, scores were weighted accordingly.) Centers were arbitrarily placed in the quality category closest to their mean yard quality. These center quality categories are used in other chapters of this report. In this chapter they are used only as follows: analysis of variance was performed on categories of teacher and child behavior by center space quality categories, and we have designated those behaviors which were found to vary significantly with quality of center space. However, in this chapter all data reported are based on yards and their associated indoor space, and teacher and child behavior which occurred in yards.

Findings: Relationship of Space Quality to Other Physical Characteristics

Yard quality as measured was related to several other setting variables. These included yard shape and composition of surface; yard size, number of children and crowding; variables relating to indoor space; and kind of property (converted or designed). These relationships will be discussed below.

Yard Shape and Composition of Surface

We found that certain yard shapes and surfaces are associated with maximum organization while others are associated with minimum organization. The frequency in our sample of the different yard shapes, and their relation to measures of quality are shown in Table 119.

TABLE 119

RELATIONSHIP OF YARD SHAPE TO SELECTED MEASURES OF YARD QUALITY

MEASURE OF QUALITY	YARD SHAPE		
(N=69 yards)	Irregular (N=27)	Oblong (N=26)	Square (N=16)
Maximum organization	41.0%	30.0%	6.0%
Clear path	48.0	50.0	25.0

Only one of the square yards was maximally organized. The difficulty could well be related to Hall's observation that in this country we tend to furnish a room by placing objects around the edges and leaving free space in the middle

(Hall, 1966). When a yard is organized on this principle and has both a long and short axis, the resulting free, central area will tend to be elongated and pathway-like. When, however, the axes are of similar length, any empty central space will be roughly circular or square, and, if large enough, act as dead space. If an attempt is made to eliminate empty central space by indiscriminately placing equipment over it, the surface may well appear to be almost all covered and no clear path will be apparent.

In the one maximally organized square yard, and in two square rooms intended for free choice activity, we saw a principle of organization which solves this particular problem. A rather large play unit was placed in a roughly central position (outdoors it was a sand box; indoors a large rug with rockers and books on it). The rest of the equipment was located around the outer edges. The free space around the central unit then functioned as a pathway and in all three cases the space was well organized.

The frequency in our sample of the different yard surfaces, and their relation to measures of quality are shown in Table 120.

Quality varies with the composition of yard surface as well as with yard shape. A combination surface is most often associated with both clear path and maximum organization. Natural and artificial surfaces rate lower on organization, and artificial surface yards are more likely than other types to suffer from lack of a clear path and lack of shade. Since an artificial surface cannot develop a visible pathway, clarity depends heavily on placement of equipment and seems difficult to achieve. Natural surface yards do develop differences as a result of use, so paths can be less broad than in artificial yards, and the placement of equipment is less crucial. A combination surface offers unique support not only to the development of paths, but to organization in general. In contrast to the amorphousness of natural and artificial surfaces, the combination surface provides an initial division of the whole yard into rather large sub-areas, each of which would be likely to suggest different activities and the equipment appropriate to them. The edges provided by the texture change become a major part of a path which both separates and connects. The result is organization of space and of play ideas as well.

TABLE 120

RELATIONSHIP OF YARD SURFACE TO SELECTED MEASURES OF YARD QUALITY

MEASURE OF QUALITY	YARD SURFACE		
(N=69 yards)	Natural (N=15)	Artificial (N=23)	Combination (N=31)
Maximum organization	20.0%	17.0%	42.0%
Clear path	40.0	26.0	58.0
No shade	20.0	65.0	19.0

Yard Size, Number of Children and Crowding

Initially we instructed observers to estimate yard size. When we checked our estimates against the actual square footage of outdoor space in twenty-eight centers (38 yards), as obtained from the State Department of Social Welfare, we found that we had typically under-estimated yards of smaller sizes. We therefore re-evaluated the size of all yards and formed three size categories: small (less than 2000 square feet), average (2000 to 4000 square feet), and large (more than 4000 square feet). Four yards in the large size category were over 10,000 square feet, and we relabeled them as very large in estimating yard crowding.

All four yard size categories are represented with approximately equal frequency in the top two space quality categories. This finding suggests that adequate development of all yard sizes is possible. However, when we examined the two lowest quality categories, we found seven times as many small, and four times as many large yards as compared to yards of average size. Fifty percent of all large size yards are in quality categories 3, 4, and 5, and seem to be in the peculiar position of "looking too good." These particular yards are relatively high on all measures of interest, and the difficulty lies in the relatively large numbers of children that play in them. About two-thirds are below the median in amount to do per child. (Twenty percent have 1.0 or fewer units per child.) Large yards of low quality (categories 6 and 7) all present a barren aspect: they are very little covered, have large amounts of dead space, and are very low in interest and amount to do per child.

Forty percent of all small yards are in the two lowest quality groups and have low overall interest as well as a very small amount to do per child. (About forty percent have 1.0 or fewer units per child.) It is not that small size _per se_ presents a severe limit to the quantity of equipment; over fifty percent of these yards are half or less covered with physical objects and only seventeen percent are almost all covered. However, both small and large size yards are more crowded with children than are average size yards.

A measure of crowding was arbitrarily developed from the relationship between yard size as categorized and number of children as categorized. This allowed us to characterize yards as not crowded, moderately crowded, and maximally crowded.

The number of children in the yards ranged from seven to forty-five with a median at fifteen, and quartiles at 11 and 25. We judged ten or fewer children to be appropriate to any size yard; eleven to fifteen children to yards of average or greater size; sixteen to twenty-four children to large or very large yards; and twenty-five or more children to very large yards. Using this scheme yards with ten or fewer children could not be rated crowded; small yards with eleven to fifteen children were rated moderately crowded; yards with sixteen to twenty-four children were rated moderately crowded if their size was average and maximally crowded if small; yards with twenty-five or more children were rated moderately crowded if they were large and maximally crowded if they were average or small.

We found crowding to be related to mean yard quality and to yard size (see Table 121).

TABLE 121

RELATIONSHIP OF CROWDING TO YARD QUALITY AND SIZE

YARD QUALITY AND SIZE (N=69 yards)		NOT CROWDED (N=35)	MODERATELY CROWDED (N=26)	MAXIMALLY CROWDED (N=8)	
Mean yard quality		2.9	3.7	5.2	
Yard size:					
Small	(N=17)	41.0%	35.0%	24.0%	100.0%
Average	(N=35)	60.0	29.0	11.0	100.0%
Large and very large	(N=17)	41.0	59.0	0.0	100.0%

Maximum crowding is decidedly associated with low spatial quality, and although moderate crowding appears to serve a useful purpose under some circumstances, there are other circumstances when it will interfere with children's interest and involvement. (See discussion below under program format and space, pp. 322-325.) Crowding also varies according to size, with both small and large yards more crowded than those of average size.

Indoor Space

Three of the most important dimensions on which indoor space was rated were (1) whether or not the space was functional (whether the indoor space arrangement impeded or facilitated the usual course of events for children and staff);

(2) the interest level (whether the relative amount of equipment was average, above or below); and (3) whether or not the noise level was unusually high.

The positive aspect of each of these dimensions of indoor space decreases as yard quality decreases; in general, yard quality predicts accompanying indoor quality as measured by these criteria. (See Table 122.)

TABLE 122

RELATIONSHIP OF YARD QUALITY TO RATINGS OF ASSOCIATED INDOOR SPACE

YARD QUALITY CATEGORIES (N=69 yards)		INDOOR SPACE Functional space	INDOOR SPACE Interest, average, and above	INDOOR SPACE Space, not noisy
Excellent and very good (1 + 2)	(N=16)	81.0%	100.0%	94.0%
Good + average + poor (3 + 4 + 5)	(N=40)	50.0	70.0	80.0
Very poor and bad (6 + 7)	(N=13)	46.0	38.0	46.0

Mean quality is higher for yards associated with functional indoor space, and functional space is far less likely to have additional negative factors indoors (such as low interest, crowding or noise) than is non-functional space.[3]

We rated interest level indoors in terms of amount of equipment that was present: below average, average, above average. Yard quality and amount of complexity were strongly associated with indoor interest level. (See Table 123.)

TABLE 123

RELATIONSHIP OF INDOOR INTEREST LEVEL TO SELECTED MEASURES OF YARD QUALITY

MEASURE OF QUALITY (N=69 yards)	INDOOR INTEREST LEVEL Below average (N=16)	Average (N=31)	Above average (N=22)
Mean yard quality	4.6	3.5	3.1
Low outdoor complexity (3 or fewer complex and no super-units)	93.0%	51.0%	41.0%

Noise Level of Indoor Space

Examination of the data on indoor space presented a picture of unusually low overall quality (indoors and out) associated with high noise level indoors. Using the method detailed in Appendix C_1 space which was below the median on summary measures of quality both indoors and outdoors was differentiated, and categorized according to whether or not the indoor space was noisy. We then compared overall low quality noisy space with overall low quality non-noisy space. Noisy space indoors is associated with lower quality yards, as well as with greater stress in the yards, than is space categorized as low quality but not noisy. There seem to be more children in less space in the noisy than in the non-noisy category with both crowding and numbers of children higher.

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[3] In eight cases observers disagreed as to whether or not space was functional. Except for slightly higher mean yard quality, functional space on which there was observer disagreement does not appear to differ appreciably from non-functional space. Although omitted from this table, such space has been combined with that in the non-functional category in the remainder of this report.

In addition, yards associated with noisy space are decidedly less interesting, and more frustrating in whatever interest they do possess, than are yards from the non-noisy category. In yards from both categories what little there is to do is difficult to get to; neither has any maximum organization. But the more crowded conditions in yards in the noisy category mean that there are relatively more children in the empty space, so that equipment is even harder to get to, is more likely to be occupied if and when a child reaches it, and probably won't hold his interest very long anyway (low complexity, lower variety, shabby equipment). The non-noisy category has some advantage in lack of shabby equipment, a somewhat greater variety of equipment, and somewhat more to do per child. (See Table 124.)

Further, the number of persons present in noisy space is likely to differ from that in space not rated noisy. Eighty-three percent of yards in the former category, but only nine percent of yards in the latter, have more than one teacher present. This striking difference for staff is accompanied by a less marked one for children, namely, children in noisy space are somewhat less likely to be grouped by age. An age range of 2 1/2 to 5 was found in over two-thirds of the noisy space, as compared to just over half of the non-noisy. Lack of age grouping would seem unusually stressful where space is crowded and organization and interest are low. Under these conditions children probably have difficulty getting away from interfering younger children or overstimulating older ones, and conflict is likely to arise.

TABLE 124

RELATIONSHIP OF NOISE LEVEL IN LOW QUALITY SPACE TO SELECTED MEASURES OF YARD QUALITY

MEASURE OF QUALITY (N=23 settings)	NOISE LEVEL INDOORS Not noisy (N=11)	 Noisy (N=12)
Mean yard quality	4.5	5.6
Yard with number of children above median	63.0%	84.0%
Crowded yard	72.0	92.0
Shabby or broken equipment	0.0	33.0
Variety below median	54.0	75.0
1.0 or fewer units per child	36.0	58.0

When more than one teacher is present, transgressions by children appear more likely to be seen and acted upon. Where space quality is low, it seems to us that the presence of more than one teacher may operate to the detriment of the group and actually be the critical determinant for noise. If teachers refrained from interfering in conflicts between children (and thus contributing to the frustrations and limitations that children are experiencing), it is quite possible that a kind of hierarchy of strong versus weak, older versus younger, might develop. As unpleasant as this may sound, children would at least know where they stand. If Johnny knows there is no sense in trying to get the red trike from Mike, because Mike will hit him, conflict is less likely to develop than if previous teacher intervention has led Johnny to expect that if Mike hits him and he cries there is a good chance that the teacher will get the trike for him. Without teacher intervention, even if the older and stronger boys take over most of the equipment, there will still be safe corners of the yard where other children can congregate and develop their own groups or find some way of moving up in the hierarchy. It is not necessarily space alone, but the teacher's response to space-induced behavior of children, which appears to be causing much of the noise.

Kind of Property: Converted or Designed

When we examined this dimension we found that mean yard quality and maximum organization were somewhat higher for designed than for converted property. (See Table 125.) At the same time, natural yard surfaces, with their virtual absence of shade problems, are found primarily on converted property, while artificial yards, which have many shade problems, are closely associated with designed property.

TABLE 125

RELATIONSHIP OF KIND OF PROPERTY TO SELECTED MEASURES OF YARD QUALITY

MEASURE OF QUALITY (N=69 settings)	KIND OF PROPERTY Converted (N=34)	Designed (N=35)
Mean yard quality	4.1	3.4
Maximum organization	24.0%	34.0%
Natural surface	41.0	3.0
Artificial surface	11.0	54.0
No shade	26.0	43.0

The greater maximum organization on designed property is not related to the presence of more of those yard shapes and surfaces which are easier to organize: both converted and designed property have similar numbers of combination-surfaced and irregular or oblong-shaped yards. It appears, however, that while converted property has about the same amount of maximum organization in oblong yards, it does not have the same degree of maximum organization in combination-surfaced and irregular-shaped yards as does designed property. (See Table 126.)

We suspect that combination and irregular yards on converted property have less potential for maximum organization than do those found on designed property. The covered porch adjacent to a building designed as a day care center is quite different in its implications from the driveway or cement path near a converted house, and irregularity which is part of a day care design may be quite different from the accidental presence of a side yard.

TABLE 126

DEGREE OF MAXIMUM ORGANIZATION BY YARD SURFACE, SHAPE, AND KIND OF PROPERTY

YARD CHARACTERISTICS	DEGREE OF MAXIMUM ORGANIZATION Kind of Property Converted		Designed	
Combination surface	31.0%	(N=16)	53.0%	(N=15)
Irregular shape	31.0	(N=16)	55.0	(N=11)
Oblong shape	30.0	(N=10)	31.0	(N=16)

Indoor space is decidedly better in designed property. Roughly three-fourths of the yards on designed property are associated with above average indoor space, while three-fourths of the yards from converted property have below average indoor space.

Indoor space on converted property tends to be less functional than on designed property. Although yard size and numbers of children are similar, the amount of indoor space is decidedly less for converted property than for designed, and consequently, crowding results. (See Table 127.)

TABLE 127

CHARACTERISTICS OF INDOOR SPACE BY
KIND OF PROPERTY

INDOOR CHARACTERISTICS	KIND OF PROPERTY	
(N=69 settings)	Converted (N=34)	Designed (N=35)
Mean amount of indoor space	Limited	Average
Not functional	82.0%	20.0%
Crowded	59.0%	17.0%

Findings: Relationship of Space Quality to Structural and Organizational Characteristics

In this section we will discuss the differences in spatial quality by center size and sponsorship, and by certain characteristics of children, namely, ethnicity, socioeconomic status and age.

Space Characteristics and Size of Center

There appears to be a consistent and pervasive relationship of center size to spatial quality. Yards from medium size centers are of decidedly higher quality and have substantially more maximum organization, higher variety and complexity, and larger amounts to do per child than yards from either small or large centers. (See Table 128.)

Relatively large amounts of emptiness characterize yards from both large and small centers; about forty percent of yards from small centers and sixty percent of yards from large centers are relatively empty. Only nine percent of yards from large centers are relatively full, while about forty percent of the yards from small centers are in this category. We observed that small centers often have large amounts of simple equipment, thereby providing more units per child than large centers, in which yards tend to be simply equipment-poor.

TABLE 128

RELATIONSHIP OF CENTER SIZE TO SELECTED MEASURES OF YARD QUALITY

MEASURE OF QUALITY (N=69 yards)	CENTER SIZE Small (N=12)	Medium (N=35)	Large (N=22)
Mean yard quality	4.3	2.9	4.8
Maximum organization	8.0%	45.0%	9.0%
Variety above median	33.0	69.0	28.0
High and moderately high complexity	17.0	63.0	23.0
Amount to do per child above median	42.0	57.0	23.0

The pattern in yards from large centers, unlike small and medium size centers, contrasts strongly with the pattern found in their indoor space. Small centers are consistently inadequate, both indoors and outdoors, with eighty-three percent of their indoor space below average. Roughly half the indoor space associated with yards from medium size centers is below average. However, only a third of the yards from large centers have indoor space which is below average by our criteria. The superiority of indoor space in large centers leads us to believe that the yards have simply been forgotten. It is possible that the exigencies of operating a large center negate any opportunity for directors to become aware of yards and how they are functioning. For a director in a large center to see yards, she must set aside special time and do a great deal of walking. In many large centers, no yards can be seen from the director's office, nor are all yards visible from one centrally located doorway. In addition, yards cannot be observed casually throughout the day in the course of the director's necessary indoor activities, since the indoor space is very large, and the shortest walking distance through the building is generally far from a windowed wall.

Although we have no directly relevant data, we are impressed with the sheer amount of indoor space in some large size centers. Many rooms are too large to be effectively supervised if children engage in free choice or free play. Additionally, the number of linear feet through which children and staff must move in the course of a day impresses us as formidable. It seems that the staff has the simple choice between lining children up and leading them all at once through the necessary distance, or using a special sort of subtle manipulation which accomplishes this move by gradual stages. A brief example of this subtle manipulation follows: when children entered a large room first thing in the morning, they walked some distance to the first of six tables where table toys were available. As more children arrived, teachers set toys on the second table, then the third, and cleared off the first, and then the second, table. Very gradually, children were moved from tables near the entry to tables closer to the spaces they would occupy when they were formed into groups. Subtle manipulation puts strict limits on the amount of freedom which can be granted children and staff; many straightforward long walks may well result in obstreperous children and dissatisfied staff.

Another limit on amount of freedom comes from logistical necessities in a center of large size. Groups of children and their teachers simply must arrive at expected activities on time; the first group assigned to a toilet room cannot be late without making other groups late in turn; snack time must end in time for lunch procedures to begin; etc. Quite apart from our criteria for evaluating indoor space, the large amount of space per se and the large numbers of children apparently act to impede freedom of movement and freedom of choice for children and staff.

Spatial Characteristics and Sponsorship

Mean yard quality is only slightly related to sponsorship, with proprietary centers of somewhat lower quality than the other types. Differences in center size and kind of property, however, are strongly related to sponsorship. (See Table 129.)

TABLE 129

RELATIONSHIP OF SPONSORSHIP TO YARD QUALITY, SIZE OF CENTER, AND KIND OF PROPERTY

YARD CHARACTERISTICS	SPONSORSHIP		
(N=69 yards)	Proprietary (N=36)	Non-profit (N=6)	Public (N=27)
Mean yard quality	3.8	3.3	3.3
% of yards from:			
Large centers	19.0%	17.0%	52.0%
Small centers	28.0	17.0	4.0
Converted property	83.0	0.0	11.0

All yards from non-profit centers are on designed property and two-thirds are of medium size; yards from public centers are found primarily on designed property and are about equally divided between medium and large center size. Yards from proprietary centers are found primarily on converted property, about half in centers of medium size, thirty percent in small centers, and twenty percent in large centers.

The converted property typical of proprietary centers carries with it both disadvantages and advantages. Proprietary centers have somewhat less maximum organization, and far more below average indoor space. However, they are more likely to have natural yards and fewer shade problems than public centers. (See Table 130.)

While the size of yards does not differ by sponsorship, yards from proprietary centers tend to have more children and are therefore more crowded than yards from public centers.

TABLE 130

RELATIONSHIP OF SPONSORSHIP TO MEASURES OF SPACE QUALITY

MEASURE OF QUALITY (N=63 yards)	SPONSORSHIP Proprietary (N=36)	Public (N=27)
Maximum organization	39.0%	48.0%
Indoor quality below average	78.0	11.0
Artificial surface	11.0	70.0
Natural surface	39.0	4.0
Shade problems	17.0	52.0

Indoor space in proprietary centers is also more crowded than in public centers. (See Table 131.)

TABLE 131

RELATIONSHIP OF SPONSORSHIP TO CROWDING

MEASURE OF CROWDING (N=63 yards)	SPONSORSHIP Proprietary (N=36)	Public (N=27)
Number of children above median	53.0%	37.0%
Crowded yards	58.0	33.0
Indoor space crowded	53.0	19.0

Centers under the two sponsorships differ markedly in kind of equipment. Public centers in contrast to proprietary centers characteristically have low numbers of simple units,[4] high complexity, and virtually never have shabby equipment or below-average equipment indoors. The higher complexity in yards from public centers results in their having a larger amount to do per child. (See Table 132.)

TABLE 132

RELATIONSHIP OF SPONSORSHIP TO EQUIPMENT CHARACTERISTICS

EQUIPMENT CHARACTERISTICS	SPONSORSHIP	
(N=63 yards)	Proprietary (N=36)	Public (N=27)
Number of simple units above median	70.0%	34.0%
High + moderately high complexity	30.0	66.0
Shabby and broken equipment	22.0	0.0
Below-average equipment indoors	33.0	4.0
Amount to do per child above median	36.0	52.0

Many yards in public centers are subject to vandalism and are consequently relatively barren. We have wondered if it might be possible to develop a "moveable yard," in which many types of equipment could be designed to be taken out in the morning and put back in the late afternoon. This same sort of procedure might be helpful in dual-purpose centers where a play yard must also serve other purposes such as a Sunday parking lot.

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[4] The number of simple units in a yard is not related to mean yard quality. In some yards a large number of simple units is the only source of interest; to some extent, the presence of many such units is associated with an absence of complex units. We recognize the value of simple units; our emphasis on complexity stems from its relative absence in our sample and the effects of this absence on children's and teachers' behavior.

Socioeconomic Status, Center Sponsorship and Spatial Quality

Yards were classified according to the SES of the center's clientele. Centers under proprietary sponsorship serve families from SES categories I, II and III; centers under public sponsorship serve families only from SES categories III and IV. For both types of sponsorship, average yard quality is higher with higher SES. (See Table 133.)

TABLE 133

MEAN YARD QUALITY BY SPONSORSHIP AND SES

SOCIOECONOMIC STATUS OF CLIENTELE	MEAN YARD QUALITY Sponsorship	
	Proprietary	Public
SES I (N=7)*	3.6	---
SES II (N=19)	4.0	---
SES III (N=33)	4.7 (N=10)	3.0 (N=23)
SES IV (N=4)**	---	5.3

* These 7 yards are from 4 centers.
** These 4 yards are from 3 centers.

Only proprietary centers offer sufficient range in SES to permit extensive comparison on this basis, although some differences also appear within public centers by SES level. Yard quality is positively associated with SES of clients.

Centers serving children from the highest socioeconomic category have yards better in several respects than SES II and III yards; organization is relatively high, crowding relatively low, and there is characteristically less simple and more complex equipment. (See Table 134.)

TABLE 134

RELATIONSHIP OF SES TO SELECTED MEASURES
OF YARD QUALITY
(Proprietary centers only)

MEASURE OF QUALITY (N=36 yards)	SES I (N=7)	SES II (N=19)	SES III (N=10)
Maximum organization	57.0%	37.0%	30.0%
Crowded	43.0	58.0	70.0
Number of simple units above median	28.0	84.0	70.0
Super-unit or 4 or more complex units	43.0	32.0	20.0

Indoor space in SES I centers is of unusually high quality, exceptionally roomy and interesting with no excessive noise and little crowding. Children in these centers are provided with an interesting, well-organized, and sheltered environment. Not only does the indoors provide better space than the outdoors, but few yards provide any contact with activities outside the fence; in three-fourths of the yards nothing can be seen from within the fence except the center itself and the tops of neighboring buildings. Centers serving children of lower socioeconomic level are more apt to offer glimpses of a lively outside world--a busy elementary school yard or street. (See Table 135.)

TABLE 135

RELATIONSHIP OF SES TO SELECTED MEASURES OF INDOOR QUALITY

(Proprietary centers only)

MEASURE OF QUALITY	SES		
(N=36 yards)	I (N=7)	II (N=19)	III (N=10)
Above average indoor quality	71.0%	11.0%	10.0%
Above average amount of space	100.0	20.0	30.0
Average or above amount of equipment	100.0	53.0	70.0
Not noisy	100.0	68.0	40.0

Spatial Characteristics and Ethnicity of Children

We examined space quality according to the ethnicity of the children's groups: fifty-three yards had Caucasian, nine Negro, six mixed ethnicity and one Mexican-American children. (In the analysis we have combined the mixed ethnicity and Mexican-American groups.)

Yards serving Negro children are of distinctly low quality. The great majority have minimum organization, two-thirds are low on both measures of interest--complexity and variety--and over forty percent have 1.0 or fewer units per child. (See Table 136.)

TABLE 136

RELATIONSHIP OF ETHNICITY TO SELECTED MEASURES OF YARD QUALITY

MEASURE OF YARD QUALITY (N=69 yards)	ETHNICITY Caucasian (N=53)	Mixed (N=7)	Negro (N=9)
Mean yard quality	3.6	2.9	5.1
Minimum organization	30.0%	28.0%	88.0%
Variety below median	49.0	43.0	66.0
3 or fewer complex, no super-units	56.0	42.0	77.0
1.0 or fewer units per child	21.0	14.0	44.0

Two-thirds of the yards serving Negro children also are associated with below average indoor quality. Both high noise level and below average indoor equipment are particularly prevalent. (See Table 137.)

TABLE 137

RELATIONSHIP OF ETHNICITY TO SELECTED MEASURES OF INDOOR QUALITY

MEASURE OF INDOOR QUALITY (N=69 yards)	ETHNICITY Caucasian (N=53)	Mixed (N=7)	Negro (N=9)
Below average indoor quality	49.0%	29.0%	67.0%
Noisy	15.0	0.0	44.0
Equipment below average	21.0	28.0	44.0

Only one yard--from an average size, single yard, non-profit, designed center--serving Negro children is in the top quality category. Of the remaining eight yards, five are in the two lowest quality categories and none are above category four. In fact, although only nineteen percent of all yards in our sample were rated in the two lowest yard categories, fifty-five percent of the yards with Negro children were so rated.

Yards with Mexican-American and mixed ethnicity children are usually found in average size public centers, which tend to be of relatively high quality.

Spatial Characteristics and Age of Children

When we grouped yards according to the ages of the children they served, we found the pattern presented in Table 138.

TABLE 138

RELATIONSHIP OF AGE OF CHILDREN TO SELECTED MEASURES OF YARD QUALITY

MEASURE OF YARD QUALITY	AGE OF CHILDREN			
(N=69 yards)	All ages (N=30)	Twos (N=17)	Threes (N=12)	Fours (N=10)
Mean yard quality	4.0	3.9	3.1	3.4
Crowded	67.0%	35.0%	32.0%	40.0%
Low complexity	57.0	76.0	41.0	50.0
Very low variety (5 or less)	13.0	35.0	17.0	20.0

Yards which serve all ages of children are substantially more crowded than those which serve individual age groups. Yards which serve younger children are decidedly the least interesting; no yard for two-year-olds in our sample has more than eight to ten different kinds of things to do and none has more than three complex units or two super-units. Of the seventeen yards for young children, ten have either none or one complex unit and no super-unit, and nineteen have 1.5 or fewer units per children.

While two-year-olds probably need a simpler environment than older children, we have the feeling that many yards for twos may well elicit and maintain what is commonly called typical two-year-old behavior. For instance, we observed one yard with one teacher and a free choice format, rated in quality category 4, in which there were nine children, seven simple units, one complex unit and no super-unit, 1.1 units per child, and five kinds of things to do (variety). The most important problem for children in this yard is finding something interesting to do next. Because they are two and one-half to three years old, "next" will come quite often; and because of the minimum complexity, "next" will most likely be a shift from unit to unit, rather than a broadening of interest and involvement within a single (complex) unit. The yard, in other words, offers little opportunity to increase attention span. The low complexity also limits the amount of parallel play that can occur in a setting where it will naturally lead to cooperative play. Because of the small amount to do per child, it is very likely that children will have a hard time finding the empty unit places from which to choose, and will want what someone else has. It seems to us that this yard makes it necessary for children to "learn to share and take turns." In addition, children may be highly and unnecessarily dependent upon the teacher in finding something to do.

All age groups are represented in the highest yard quality category, and though the numbers are small, the differences in equipment are suggestive of an approach to age-appropriate yard development. Nine yards in seven centers were rated excellent (only one multiple yard center had all its yards so rated).

In Table 139 real numbers, rather than percentages, have been used to clarify the differences which exist, and to give the reader some "feel" for what an excellent quality yard provides. Yards for two-year-olds are distinguished very clearly from the others by their lower total complexity. Three and four-year-old groups, by and large, have many more complex units and thus tend to have more to do per child as well as somewhat higher variety. The two yards of excellent quality which serve all ages will be discussed in detail in the section on program format (pp. 322-323 below).

In two-year-old yards, high variety seems dependent on careful selection of equipment, most particularly a careful avoidance of duplication in simple units. It looks very much as if what is important to space for young children is a relationship between number of children and number of simple, complex and super-units which results in a relatively large amount to do per child; and a definite but limited amount both of complexity and variety. Complexity and variety probably have limits beyond which the yard will be too stimulating for younger children. But some complexity is needed to (1) maximize opportunities for choice while keeping a limit on variety, (2) provide opportunities to lengthen attention span, and (3) provide constructively appropriate settings in which children can meet.

TABLE 139

DIFFERENCES IN NINE YARDS OF EXCELLENT QUALITY BY AGE OF CHILDREN

AGE OF CHILD	YARD CHARACTERISTICS							
	# of children	# of teachers	# of simple units	# of complex units	# of super-units	Variety	# of units per child	Sum of complex plus super*
Twos	13	2	12	1	2	10	2.5	20
Twos	9	2***	6	3	1	9	2.9	20
Threes	11	1	5	8	2	9	4.1	48
Threes	19	2	28	4	2	11	3.2	32
Fours	12	1	2**	3	2	6**	2.5	28
Fours	18	1	9	8	2	12	3.5	48
Fours	12	1	7	5	1	10	2.9	36
All ages	32	3	32	6	1	10	2.1	32
All ages	35	4	13	11	3	13	3.6	68

* Complex units are valued at 4 and super at 8 units each.

** An adjacent yard for kindergarten children is often used by this group.

*** This group does not routinely have two teachers. The extra teacher was apparently present to help with a finger painting activity.

Findings: Space Quality as a Predictor of Teacher Behavior

Teacher behavior in yards is related to yard quality. As the quality of space decreases, the amount of nonroutine encouragement decreases, while the amount of guidance and restriction increases. Table 140 shows these relationships.

TABLE 140

YARD QUALITY BY SELECTED MEASURES OF TEACHER BEHAVIOR

(Figures are mean percentages)

OBSERVATIONS BY YARD QUALITY CATEGORY (N=451)		TEACHER BEHAVIOR Nonroutine Encouragement	Guidance	Restriction
1. Excellent	(N=82)	30.3%	24.6%	4.6%
2. Very good	(N=51)	26.2	26.0	6.7
3. Good	(N=92)	19.6	30.5	10.0
4. Average	(N=93)	19.0	33.0	12.3
5. Poor	(N=34)	18.4	29.8	11.2
6. Very poor	(N=29)	16.9	40.5	9.0
7. Bad	(N=70)	14.6	30.0	9.8

The decrease in amount of guidance in the bad quality category probably is related to the fact that eighty-three percent of the observations in this category come from three yards where outdoor activity was primarily teacher-directed and highly organized.

Teacher manner rated as sensitive and friendly and children's responses rated as interested and involved decrease with decreasing yard quality. (See Table 141.)

TABLE 141

YARD QUALITY BY TEACHER MANNER AND CHILDREN'S RESPONSES

YARD QUALITY CATEGORY (N=451 observations)	TEACHER MANNER* Ratings of Sensitive and friendly	CHILDREN RESPONSES* Ratings of Interested and involved
1. Excellent (N=82)	89.0%	85.0%
2. Very good (N=51)	87.0	67.0
3. Good (N=92)	55.0	49.0
4. Average (N=93)	56.0	62.0
5. Poor (N=34)	53.0	62.0
6. Very poor (N=29)	38.0	51.0
7. Bad (N=70)	46.0	43.0

Significant * .05 level (F ratio)

Lessons Taught

The number of lessons taught also decreases with decreasing space quality. Lessons in consideration and creativity decrease the most, while there is a concomitant increase in rules of social living. The reversal found in the lowest quality category on number of lessons taught is related to the extensive use of teacher-directed activities in half of the yards in this category. (See Table 142.)

TABLE 142

YARD QUALITY BY SELECTED LESSONS TAUGHT

OBSERVATIONS BY YARD QUALITY CATEGORY (N=451)	Mean # lessons taught per obs.	Consid- eration*	Creativity & experimentation	Rules of social living*	Control and restraint
	LESSONS TAUGHT (As a percentage of total lessons taught)				
1. Excellent (N=82)	2.8	26.0%	21.0%	0.0%	2.0%
2. Very good (N=51)	1.7	15.0	14.0	4.0	12.0
3. Good (N=92)	1.6	6.0	19.0	8.0	15.0
4. Average (N=93)	1.5	11.0	18.0	15.0	6.0
5. Poor (N=34)	1.6	18.0	4.0	22.0	2.0
6. Very poor (N=29)	0.8	4.0	9.0	23.0	18.0
7. Bad (N=70)	2.1	4.0	2.0	18.0	15.0

Significant * .05 level (F-ratio)

It seems to us that there is a compensatory relationship between lessons in consideration for rights and feelings of others and in rules of social living. Where the quality of the space is high and children are mostly interested and involved, the teacher has time to observe her group and be aware of children who need help in understanding and achieving their own and others' rights. The teaching of rules of social living tends to rise in part, we think, as this "discretionary" time of the teachers becomes more limited, and spatial factors necessitate more and more frequent teacher responses to children's behavior. Children need to "learn to be nice to their friends" when the teacher does not have time to spend with an individual child helping him recover his "nice feelings." Children need to learn to "share and take turns" when the space is so poor that there is not enough for children to do and/or the teacher does not have time to help children wait. There is, we think, this sense in which rules of social living are a kind of "shorthand" for consideration, and spatial factors can force the development of this shorthand.

Lessons in creativity stay relatively high through quality category 4, then decline while rules of social living and control and restraint rise. To teach creativity is to attempt to elicit (or give the child the opportunity to maintain his capacity for) a spontaneous individual response. Creativity is not something that happens at a table activity from 10:00 to 10:20 every morning and at no other time; it is rather an overall attitude toward life and the world, which if genuinely elicited and/or reinforced will tend to generalize and structure much of the child's behavior. But creativity needs two things beyond the teacher's activity in its behalf--a setting which will support its manifestations throughout the day, and some larger attitude to "socialize" it, as it were. In the categories of lessons taught, consideration for the rights and feelings of others is an attitude which can consistently and reasonably be said to offer structure (i.e., limits within which a child can behave in spontaneous, individual, and novel ways) for creativity. Rules of social living, and control and restraint tend to oppose creativity--they say "No, you may not," and "This is why you may not!" rather than helping children to find ways of achieving their goals within the structure of consideration.

In the physical setting, complex and super-units with their multiplicity of play ideas seem to us necessary for the support of creativity. Overall high quality space is necessary both to provide the teacher with sufficient discretionary time to teach consideration, and to provide the children with sufficient opportunities for creative play.

Children's responses are surprisingly high in quality category 5, a finding which may relate to the very low amount of creativity that is being taught. Teaching of both rules and consideration is relatively high, and there is virtually no attempt to make the setting do what it cannot do--support creativity. We feel very strongly that space needs to be analyzed for its capacity to support creativity; and if there is lesser capacity, either space quality should be improved, or creativity should not be taught.

Conflict

Several times we have suggested that spatial factors can be the cause of conflict among children. The increase in restriction and guidance, control and rules, which accompanies decreasing quality of space supports our contention. Previously we have suggested ways in which spatially induced conflict can be reduced, and we would like to put the implications of these suggestions into perspective.

As stated previously, our conceptual framework assumes both that a balance of types of teacher behavior (encouragement, teacher direction, guidance, restriction, and neutral behavior) is necessary in fostering children's growth, and that certain types of behavior, particularly nonroutine encouragement, will predominate in programs which are optimal. In suggesting that spatially-induced conflict can be reduced, we are not implying that all conflict should be eliminated. It should, however, be reduced to manageable proportions and limited to that for which children themselves can generate solutions. This is not to say that the teacher should refrain from offering needed help in developing solutions, but spatial factors should not be permitted to force her into the provision of arbitrary rules or whole solutions.

It seems to us that a meaningful kind of conflict does occur in the highest quality yard group, and that children are being encouraged to develop their own solutions. Twenty-six percent of all lessons taught were consideration, and fifteen percent and thirteen percent respectively were devoted to dealing with other children and self-sufficiency. Restriction is not totally absent, although teaching of rules is, and teaching of control is minimal. Children cannot deal with other children or develop self-sufficiency without learning to cope independently with conflict. The fact that consideration is taught most frequently in yards of highest quality suggests that, as with creativity, consideration for rights and feelings of oneself and others provides the limits within which the child's own solution to a conflict is accepted by the teacher.

When dealing with other children and self-sufficiency are not taught within a framework of consideration (as would appear to be the case in some of the lower quality yard groups), we suspect that either some kind of hierarchical "pecking order" will be likely to develop, or teacher interference (high restriction and control) will result in noisy expression of general frustration.

Program Format

Characteristics of space in yards in the four program formats are shown in Table 143. Yard quality is highest for the free choice format, lowest for the teacher-directed formats.

Over a quarter of the free choice yards are of excellent quality, and none of bad quality; mean quality is highest for this format. Free play yards have equal though small percentages of excellent and bad quality yards, and mean quality is second highest. Teacher-directed yards have a small percentage of excellent and a slightly larger percentage of bad quality and rank third in mean quality. Yards with the teacher-directed/free play format have the lowest mean quality, some yards of bad quality and no yards of excellent quality.

TABLE 143

PROGRAM FORMAT BY SELECTED MEASURES OF SPACE QUALITY

MEASURE OF QUALITY (N=69 yards)	PROGRAM FORMAT Free play (N=19)	 Free choice (N=22)	 Teacher-directed/ free play (N=15)	 Teacher-directed (N=13)
Mean yard quality	3.8	3.4	4.4	4.1
Percentage of yards rated:				
Excellent	10.0%	27.0%	0.0%	8.0%
Bad	10.0	0.0	13.0	15.0

In general, small numbers of children in small and average size yards characterize the free choice format; large numbers of children in average and large yards characterize the free play format; and large numbers of children in small and average size yards characterize the two teacher-directed formats. In addition, yards by program format vary both in relative amount of crowding (number of children relative to yard size) and relative amount of yard surface which is covered by equipment. The yards from teacher-directed formats tend to be both crowded and covered with equipment; free play yards tend to be crowded, but have least equipment coverage; while free choice yards have almost no crowding, and equipment coverage which is greater than found in free play, but less than in the teacher-directed formats. (See Table 144.)

TABLE 144

YARD USE BY PROGRAM FORMAT

USE CHARACTERISTIC (N=69 yards)	PROGRAM FORMAT Free play (N=19)	Free choice (N=22)	Teacher-directed/ free play (N=15)	Teacher-directed (N=13)
Mean yard size*	2.5	1.9	1.7	2.1
Mean proportion of surface covered**	3.4	2.8	2.1	2.5
Percentage: children above median	52.0%	14.0%	60.0%	77.0%
Percentage: crowded	53.0	18.0	80.0	62.0

* Yard size: Small = 1, Average = 2, Large = 3, Very large = 4.

** Proportion of surface covered from 5 point scale where 1 = almost all covered and 5 = very little covered.

It appears that the free formats typically have much more empty space and more maximum organization than the teacher-directed formats. Quite simply, it is far easier for children to move around in free format yards.

There is consistent similarity in equipment characteristics between free choice and teacher-directed formats (about half the yards in the latter category actually provide over twenty percent free choice in their programs). Yards with these formats are high on complexity outdoors and amount of equipment indoors, and low on number of simple units. Free play and teacher-directed/free play formats are found in yards low in number of complex units, high on number of simple units, and poor in indoor equipment. (See Table 145.)

Space used for free choice tends to have equipment which provides more long-term interest, while space used for free play provides less such equipment.

TABLE 145

SELECTED CHARACTERISTICS OF EQUIPMENT BY PROGRAM FORMAT

EQUIPMENT CHARACTERISTICS	PROGRAM FORMAT			
(N=69 yards)	Free play (N=19)	Free choice (N=22)	Teacher-directed/ free play (N=15)	Teacher-directed (N=13)
4 or more complex and/or super-unit	37.0%	55.0%	27.0%	54.0%
Number of simple units above median	58.0	36.0	80.0	38.0
Indoor equipment below average	42.0	9.0	33.0	15.0

In general, then, yards from the various formats can be characterized as follows: free choice provides ease of movement plus the kind of equipment that will tend to hold children's interest the longest; free play provides ease of movement and equipment which does not tend to hold children's interest very long. The teacher-directed format provides restriction of movement but equipment which will hold children's interest longer; and teacher-directed/free play provides restriction of movement and equipment that will not hold children's interest very long.

Teacher Manner as a Criterion of Spatial Adequacy

We have assumed that when teacher manner is sensitive or friendly, space is adequately supporting program format. For example, if the teacher is expected to provide a free choice program, she will experience difficulty and frustration in inappropriate space, and this will be manifested in her manner. A description of those yards associated with positive teacher manner should provide a picture of the kind of space necessary for strong support of each program format.

In addition, teacher manner predicts children's responses, so sensitive and friendly teacher manner will be found in conjunction with interested and involved children, as well as with good space. We are, therefore, categorizing the yards within each program format on the basis of teacher manner, and will discuss the spatial characteristics associated with positive teacher manner in each format.

Center teacher manner is correlated with both program format and yard quality. Sensitivity and friendliness are most characteristic of teachers in the free choice format, least characteristic in the teacher-directed formats. Among centers included in this chapter, those with free choice formats have no insensitive teacher manner while those with teacher-directed/free play have no sensitive teacher manner. As shown in Table 146, where teacher manner is at its best (sensitive in the free formats, and sensitive plus friendly in the teacher-directed formats), all yards, regardless of program format, are of relatively high quality.

TABLE 146

MEAN YARD QUALITY BY TEACHER MANNER AND PROGRAM FORMAT

(Percentage of yards in category in parentheses)

CENTER RATING FOR TEACHER MANNER	MEAN YARD QUALITY			
	Program Format of Centers			
(N=69 yards)	Free play (N=19)	Free choice (N=22)	Teacher-directed/ free play (N=15)	Teacher-directed (N=13)
Sensitive	2.5 (32.0%)	2.0 (50.0%)	--- (0.0%)	4.0 (8.0%)
Friendly	3.5 (10.0)	4.7 (14.0)	2.5 (13.0)	2.5 (15.0)
Neutral	4.7 (37.0)	4.0 (36.0)	4.3 (53.0)	4.0 (46.0)
Insensitive	4.2 (21.0)	--- (0.0)	5.4 (33.0)	5.0 (31.0)
	(100.0%)	(100.0%)	(100.0%)	(100.0%)

The highest quality yards differ by program format in some important details of their space, which are discussed below.

Sensitive Teacher Manner--Free Choice

Yards with a free choice format and sensitive teacher manner differ only slightly from our earlier characterization of high quality space. They are usually well organized, have high variety and high complexity (two-thirds of this category have super-units) and are not crowded. These yards generally have one teacher and children grouped by age. What seems to be additionally crucial to free choice as it occurs in most of these sensitive teacher manner yards are the number of children and the number of units per child. With two exceptions, these yards have no more than fifteen children and with three exceptions (two of which are two-year-old yards) have at least 2.5 units per child.

It is apparent that free choice can work most effectively in a yard with one teacher when she is available to supervise the special activity she has introduced. It is necessary that (1) the rest of the equipment is very interesting (complex and super-units); (2) the yard is easy for children to move around in without bumping into one another, and does not trap children in dead space (maximum organization, no crowding, fewer children); (3) potential choices for play among units are easy for children to see for themselves (large amount to do per child and maximum organization). If these conditions are not met there must be more staff in the yard.

In two small, one-yard centers with children ungrouped and more than one teacher, we found sensitive teacher manner coupled with a free choice format. Although the sample is too small to determine a clear pattern, we feel free choice in this kind of setting is rather different. With fourteen to fifteen children from two and one-half to five years old, and high teacher warmth, the general atmosphere is of a warm, lively home. There is a lot of child-child interaction, and older children help fulfill the teacher's role by taking some responsibility for the younger children. Much dramatic play develops utilizing the assets of this wide age range. Probably special activities are introduced to substitute for the minimum complexity in the permanent equipment of these yards, and do not serve quite the same purpose as in narrow age-range, one-teacher groups with smaller numbers of children.

Sensitive Teacher Manner--Free Play

In yards with free play formats and sensitive teacher manner, numbers of children and yard size both tend to be above average, and children are ungrouped. Although about half these yards are moderately crowded, only one crowded yard has less than maximum organization. One important characteristic of these yards, which distinguishes them from all other free play yards as well as from sensitive teacher manner yards of other formats, is the large number of teachers. The average number of teachers is 2.8 per yard. In free play a large number of teachers probably facilitates uninterrupted child interaction with other children and teachers, while in the best free choice yards the same objective is accomplished both by the setting and by the necessity for the teacher to stay with a special activity. Although the average number of units per child is decidedly less in free play (1.7) than in free choice (2.6), it is above the median; and these yards have both moderately high complexity (one-third have super-units) and a large number of simple units.

Two of these free play yards are of excellent quality, have super-units, and are comparable to the best of the free choice yards in all but two ways: they are moderately crowded, and one has only 2.1 units per child.[5] It seems to us that two necessary adjuncts of high child interest and involvement are being achieved in these two free play yards in a different way from their achievement in free choice yards. The larger numbers of children and moderate crowding lead to higher child-child interaction. This higher interaction leads to sub-group formation in free play settings, while teacher involvement with several children and a special activity facilitates the same result in free choice settings. In addition, what might be called the "total idea pool" of the larger numbers of children in free play, coupled with very interesting equipment, probably leads to as rich and varied an experience for individual children as would the introduction, day by day, of special activities in a free choice format with smaller numbers of children.

Friendly Teacher Manner--Teacher-Directed Formats

No yards with teacher-directed/free play format have sensitive teacher manner, and only two of the fifteen have friendly teacher manner. Since insensitive and neutral teacher manner seem fairly characteristic of the teacher-directed/free play format, the question arises as to what determines the friendly teacher manner that does exist. In one case, yard quality is very good and indoor quality is above average. The space in this center has all the characteristics of a free play format with a rating of sensitive teacher manner. In this instance, teacher direction is coming from another source: the director feels these children benefit most highly from a teacher-directed program. In the second case, yard quality is good, and indoor space below average. It is our feeling that the unique skills and high energy level of the head teacher (who provides a lot of the teacher-directed indoor program), plus a relatively good free play yard, combine to produce the friendly teacher manner. The inadequate indoor space provides the teacher with the necessity for using her unique skills (the children's high enjoyment of group activities was unquestionable), and the good front yard in which the teacher works provides her with respite from the high level activity during the teacher-directed group aspect of the format.

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[5] These are the two yards of excellent quality which serve all ages, which were referred to under spatial characteristics and age of children (pp. 307-308).

We have deferred discussion of the teacher-directed format to the end of this section because it is our impression that it does not usually occur except under atypical circumstances (e.g., remodeling, rainy days). Either there seems to be an attempt to provide a free choice or free play format and the space is forcing increased teacher direction; or space is inadequate (or unavailable) to the free play aspect of what would otherwise probably be a teacher-directed/free play format.

Our observations suggest that for the teacher-directed formats to work well, two things are needed: relatively good space, either outdoors or indoors, which can support a free format for part of the time; and high teacher energy to cope with the teacher activity necessitated by any inadequacies of space. (We have the feeling that the teachers must have special personality characteristics to function effectively and happily under the demands of a teacher-directed format. Those we observed not only seemed to have a high energy level, but also appeared to experience a great deal of joy and satisfaction in using this energy.)

It also appears that relatively good space can support high teacher direction, if the staff so desires. However (although we have no directly relevant data) we guess that children would tend to resist a large amount of teacher direction if excellent or very good quality space were present.

Natural Format Type

Considering the above discussion of program format, space, and teacher manner, it seems possible to determine the natural format type of a center. We believe space development or redevelopment should begin with this determination, on the basis of the following questions.

First, in the light of stated philosophy and goals of the center, how much and what kinds of teacher-directed activities do the staff wish to introduce? Second, given the center size, space, and financial capability as it influences staff training and amount of equipment, what are the practical limitations on choice of formats?

Our findings suggest criteria for answering each of these questions. In the first place, we have found that high interest and involvement of children and a high degree of satisfaction for staff are rarely achieved in teacher-directed formats. Young children and their teachers apparently need a large measure of freedom in the daily program; consequently most good programs will be free choice or free play as defined by our criteria. Probably no more than one and one-half hours per day should be devoted to teacher-directed activities, exclusive of routines.

In the second place, practical considerations tend to dictate the selection between free choice and free play formats. Free choice, in small groups with one teacher, requires both higher quality space and better qualified teachers than free play. In a center with twenty-five to forty-five children the decision may be made either to group children by age, with one teacher to each group in a free-choice format, or to keep all children and teachers together for ungrouped free play. Equipping and staffing two or three yards for free choice is more expensive than providing one free play yard for the same number of children. In a single large yard, several less well-trained teachers, or one qualified teacher with assistants, can support one another. The larger number of children and wide age range contribute to the interest level, and a greater variety of equipment is possible since duplication for several yards is not necessary.

Centers with fewer than twenty-five children are usually under some financial strain and have limited equipment. They are likely to function best by keeping children in one group with two teachers and introducing additional activities day by day, in a free choice format. These activities will contribute increased interest and points of focus for subgroup formation and teacher-child interaction.

In centers with more than forty-five children, some grouping becomes essential. The choice can be made, however, between forming several smaller free choice groups or two wide age range, larger free play groups. Considering the demands which large center size puts on all staff, it may be far easier to achieve good free play, which makes lesser energy demands on staff, than good free choice.

To a considerable extent the existing spatial arrangements of the center must be considered in making decisions about grouping. The indoor and outdoor divisions of space will facilitate grouping in some centers and impede it in others. Indoor space is particularly hard to change. To keep children in separate groups indoors, acoustic as well as visual separation is important; grouping within a single space can usually be accomplished only through increased direction or restriction.

When space is visually and/or acoustically single, and center size small or medium, we feel children should be separated into groups only for similar and quiet activities, and for relatively short periods of time. For the rest of the time, one group in which children are free to move around and choose among activities will, we think, reduce excessive teacher direction and increase both teacher satisfaction and children's interest and involvement. When a center is large and acoustically open, it is important that space be made acoustically separate.

Outdoors, if separate groups of children must use adjacent space, the boundary must be easily seen and understood by children, and equipment must be equally attractive and interesting in both places. Moveable fences, saw horses, solid-sided storage units and playhouses all can function as satisfactorily as more conventional fences.

If the natural format type of a center suggests ungrouped free play (or free choice), it is often necessary to use separate rooms, and front, side, and back yards, as if they were one. Doors can be removed, doorways broadened, gates left open. Children are thus given freedom, indoors and outdoors, to choose where they will play. This simple freedom to move at will, to be finished with an activity when they decide they are finished, and to choose another for themselves, is, we think, very important both to children and to staff. It puts responsibilities on the children that are legitimately theirs, and removes unnecessary burdens from the teacher.

Summary

A method was developed for rating the quality of day care center play yards based on the degree of organization, relative amounts of two kinds of interest (variety and complexity), the amount to do per child, and any special problems that were present. Quality categories were differentiated on a seven-point continuum ranging from excellent to bad quality. Indoor space was also rated on several variables and the quality of yards was found to be positively related to the quality of indoor space. Quality as measured was found to be related to structural, organizational and behavioral variables. Organization was found to be better in irregular and oblong yards than in square yards, and yards with combination surfaces are easier to organize than those with only one type of surface. Designed property is slightly better than converted property outdoors, and decidedly better indoors. Large and small yards, especially the latter, are of lower quality and have more crowding than average size yards.

Medium size centers tend to be of highest quality both indoors and outdoors. Small centers tend to be of low quality both indoors and out. Large centers tend to be inconsistent, with lowest quality outdoors and highest quality indoors. However, the sheer size of the indoor area appears to have a variety of negative results, so that indoor quality is probably less than that which our criteria suggest.

Sponsorship is associated with characteristic differences in equipment and numbers of children; public centers have space which is typically less crowded and more interesting than the space in proprietary centers. Within the two major sponsorship categories, space is better in centers serving families of higher SES. Mean yard quality is highest in SES III public centers and lowest in SES IV public centers; proprietary centers are intermediate, with quality declining consistently from SES I to SES III.

Spatial quality also varies according to age and ethnicity of children. Space for two-year-old children is typically of unusually low interest and of lower quality than space for either threes or fours. Space used by children ungrouped by age typically has relatively low quality (similar to that found for two-year-old groups) and is decidedly more crowded than space used only by age-grouped children. Three ethnic classifications were used: Caucasian, mixed, and Negro. Quality of space in centers which serve Negro children is lower, both indoors and outdoors, than that found in centers where ethnicity is mixed or Caucasian only.

Space quality clearly predicts differences in teacher behavior and children's responses. High quality space is associated with sensitive and friendly teachers, interested and involved children, nonroutine encouragement, and high numbers of lessons in consideration and creativity. Low quality space tends to have neutral and insensitive teachers and children who are less involved and less interested; guidance, restriction, and lessons in rules of social living tend to be high.

Program format appears to be highly related to spatial factors. In general, free choice yards provide high interest and freedom of movement; free play yards provide low interest and freedom of movement; teacher-directed yards provide high interest and restriction of movement; and teacher-directed/free play yards provide low interest and restriction of movement. However, whenever space offers strong support to program format (as indicated by sensitive or friendly teacher manner), yard quality and interest are consistently and relatively high.

Conclusions

We feel our data have shown not only that space strongly influences behavior in day care centers, but also that space itself is subject to influence by other factors, and that by and large the staff has little or no awareness of either influence.

For example, square yards probably would have the same potential for maximum organization as other yard shapes if organization of space were consciously understood and deliberately undertaken. Adults put things in space for children to play with, but where things are put seems related to happenstance structuring factors already present, rather than any rationale determined from goals and purposes. Again, centers of large size are established in order to use most efficiently whatever money and ability is available. Center planners are probably quite unaware that this desire for efficiency results in experiences for staff and children which they may consciously eschew. Furthermore, the differences found in type of equipment, indoor space, and type of property by sponsorship are probably related to budgetary necessities and purchasing policies, yet these circumstances result in very different experiences for children which are probably unintended by the staffs involved. Low quality in yards for two-year-olds would seem to result from general assumptions about children of this age. While these assumptions are probably largely accurate, when they are coupled with a lack of awareness about space the result is straightforward lower quality.

Clues to the need for spatial improvement can be found primarily in teachers' and children's behavior. Tired or irritable teachers; apathetic, hyperactive, or uninterested children; high noise level, high restriction and direction, and a large amount of teacher-directed activity all have a high likelihood of being spatially induced. It seems to us, therefore, very important for staff to become aware of how space works, and to develop ways of using its influence to human advantage. The advantage to be gained is dual, because both staff satisfaction and children's involvement and interest will be increased.

Short term improvement, dependent only on the initiative of the individual teacher in daily planning, can be accomplished in many centers simply through combining simple units to create complex or super-units. Long term improvement requires more complex planning, based on simultaneous consideration of several dimensions of space quality. We have spoken extensively of the necessity for determining the natural format type before space is developed (or redeveloped), and we suggest that a staff consider to what extent their commitment to a teacher-directed format has come primarily from their own personal experience with groups of children in bad space.

After the format type is determined, a decision must be made concerning the use of outdoor versus indoor space. It is necessary to take into account both spatial factors and climate in deciding which area to use and for how long. We have seen a few centers where outdoor space is extremely limited. In these centers it is necessary either to increase outdoor space, or to disregard the unique southern California climate and use indoors more extensively. In other geographic areas, because of the climate, the outdoors may be usable for only short periods of time during most of the year. Where the use of outdoor space is limited, the major emphasis in yard development should be on the maximum organization of a large variety of primarily simple units, and the provision of space for those activities, such as wheel toys and digging, which cannot take place indoors.

In the organization of either a room or a yard, it is necessary to refuse the ease of linear development, where placement of unit A leads to placement of unit B, and so forth. It is important to begin with separation into subareas on the basis of quiet-active, vehicles-climbing, messy-clean, etc. The divisions between these main areas quite naturally become the major path. In the further development of these sub-areas, it is essential to provide for flexibility; potential units have a necessary place in all space design.

Our analyses have led over and over to the conclusion that an increase in representations of the urban cultural order--man-made things--will increase teacher satisfaction and child involvement and interest. However, children also need experience with the "natural order" of the world. They not only need dirt, grass, etc., in their setting, they need the responsive encouragement that leads to the positive experience of dirt, grass, etc. As much of this natural order as possible--animals, and trees, bushes, dirt, grass and all their associated creatures, should be present and experienced in day care centers. In one center in our sample, a section of asphalt had been dug up and a small mud hole provided where children could sit at the edge and dig. (With a ratio of one teacher to twelve to fifteen children in day care, it may be too burdensome for staff to permit children in a mud hole.) Many centers keep a patch of tough grass growing simply by keeping trikes off.

Centers also need to consider the opportunities for privacy which they offer children. We saw provision for this in very few centers. In one, late in the day several small tables, each with a different activity, were set against the fence. One chair was placed next to each table, with its back to the rest of the yard. If two children wanted to be together at a table, additional chairs were available, but the setting deliberately invited aloneness and privacy. In several centers a few cots were relatively isolated at nap time providing opportunities for the sorting out of the day's happenings for a few children. This is still largely an out-loud squirm-around activity for preschoolers, and apparently when a child cannot readily learn to keep silent and lie still at rest or nap time, his bed is set somewhat apart from the others and he is allowed to continue his usual pattern. Most children, however, apparently either internalize or give up this pattern in day care centers.

In conclusion, we feel that quality of space determines the amount of freedom which can be granted both to teachers and to children. Space of high quality permits more diversity and offers many more opportunities for experiences which are highly personal and, therefore, meaningful. Conversely, space of low quality coerces teachers by forcing them to assume responsibilities for order and activity which could be given to children.

Applicability to Preschool Settings in General

Although the concepts and ideas which have been presented were developed in a study of day care centers, they have proved useful in understanding other preschool settings. We have experimented in using our method of space analysis to instruct Head Start trainees in principles of good use of space. It has proved to be an effective and graphic method for communicating basic features of use and organization and for conveying to the teacher her responsibility for organizing space. In general, we have found that these concepts are quickly grasped and easily used, perhaps because we have put into words what many teachers and directors have always sensed and acted upon.

It is probable, however, that our method of space analysis is useful only to the extent that a staff has a clear awareness of the purposes and goals of its program. Spatial contents and configurations can be made to serve general goals only if those goals are known in some detail. The degree of organization and the size and shape of the space which facilitates the supervision of fifteen or sixteen children by one teacher will be different from the spatial shapes, sizes and configurations needed where there are several adults (e.g., in cooperative or teacher training schools). While some provision for privacy or "aloneness" for children seems very important in a day care center, careful consideration of spatial support for child-child interaction is of less importance, as the necessities of program provide innumerable opportunities in this area. In a program which meets two or three mornings a week the reverse is true: while these children do need "safe places" (e.g., a swing) from which to watch the group, they generally have ample opportunity at home for "aloneness." It seems to us, then, that time, and energy and thought must be devoted to investigating and defining purposes and goals before space development or redevelopment proceeds.

CHAPTER IX

EVALUATION

In this chapter we shall consider the question, when is day care good care? Our bases for evaluation have been described in Chapter II. We have said that day care should function as a substitute for a good home, and that programs which best assume this function will be characterized by a rich and varied environment in which teacher manner is sensitive and friendly and teacher behavior is high in encouragement and balanced in the use of guidance, neutral behavior, and restriction.

In addition, we have introduced the variable, children's responses, specifically for the purposes of evaluation, on the assumption that those teacher behaviors and program arrangements which elicit positive responses from children will tend to be most conducive to children's healthy development. We shall examine the relationship of this variable to characteristics of teacher behavior and to the predictive variables described in previous chapters. Then, we shall select from our sample of day care centers those which offer high and low quality of care as rated on the above criteria, examine their characteristics, and consider the circumstances which might determine parents' opportunities to obtain care of high or low quality.

Children's Responses

Observers rated children's responses for each 20-minute observation on a five-point continuum:

1. Disinterested, bored, restless, lethargic
2. Somewhat disinterested
3. Moderately interested and involved
4. Definitely interested and involved
5. Exceptionally interested and involved.

These ratings were based on a global judgment by the observer of the responsiveness of all children for whom the teacher was responsible, as indicated primarily by the extent to which children were attentive, emotionally centered, and spontaneously involved in ongoing activities. Ratings were not made for certain routines such as nap time or transitional activities.

Ratings on children's responses for individual observations were used to develop summary ratings for centers, based on the continuum just described. For every center the percentages of children's responses which fell into each of the two lowest and highest categories (1, 2, 4, 5) were converted into a point system, as follows:

#1. Distinterested		#2. Somewhat Disinterested		#4. Definitely Interested		#5. Exceptionally Interested	
Under 6%	0	Under 10%	0	Under 20%	0	Under 10%	0
6 - 10%	-1	10 - 19%	-1	20 - 29%	+1	10 - 14%	+1
Over 10%	-2	20 - 30%	-2	30 - 50%	+2	15 - 30%	+2
		Over 30%	-3	Over 50%	+3	Over 30%	+3

Centers with a total of -4 to -2 were given a rating of disinterested, bored, restless, lethargic; those with -1 to 0, somewhat disinterested; those with +1 to +2, moderately interested and involved; those with +3 to +4, definitely interested and involved; and those with +5 and +6, exceptionally interested and involved.

Throughout the remainder of the chapter, in order to simplify the presentation, children's responses will be described on a continuum from low to high. The reader is asked to keep in mind that these terms are being used to refer to degree of interest and involvement.

Patterns of Teacher Behavior and Center Program

We have previously described (in Chapter IV) the results of a factor analysis in which four patterns of teacher behavior and center program were identified. Children's responses were highly related to the first pattern, but showed little or no relationship to the other patterns. Factor loadings for each pattern are shown below. Loadings are related to the poles which are not in parentheses. Positive loadings indicate high responses.

	Teacher Pattern	Factor Loading for Children's Responses
Pattern I	Encouragement -(Restriction)	.70
Pattern II	Conformity to Routine	-.29
Pattern III	Group Teaching	-.05
Pattern IV	Independence	-.12

	Center Pattern	Factor Loading for Children's Responses
Pattern I	Freedom -(Restraint)	.71
Pattern II	Active -(Inactive) Teacher Leadership	.13
Pattern III	Individual -(Group) Program	.25
Pattern IV	Direct -(Indirect) Style of Superficial Involvement	.07

Space quality is directly correlated with children's responses. Low quality space shows a factor loading of -.30 on Teacher Pattern I and a loading of -.57 on Center Program Pattern I, both patterns which show high positive loadings for children's responses. This relationship has been discussed previously in Chapter VIII. The first pattern for teacher behavior and center program is presented in Table 147 with the behavioral variables as reported in Chapter IV.

TABLE 147

PATTERN I: TEACHER BEHAVIOR AND CENTER PROGRAM

TEACHER BEHAVIOR ENCOURAGEMENT--RESTRICTION	Factor Loading	CENTER PROGRAM FREEDOM--RESTRAINT	Factor Loading
Nonroutine encouragement to individuals	.89	Sensitive teacher manner	.83
All nonroutine encouragement	.87	All nonroutine encouragement	.78
All encouragement	.81	Total encouragement to individuals	.63
Approval/nurturance to individuals	.68	Pleasure, awe & wonder*	.59
Consideration*	.53	Dealing with other children*	.59
Creativity and experimentation*	.52	Creativity and experimentation*	.55
Total verbal skills to individuals	.48	Consideration*	.34
Interpretive verbal skills to individuals	.47	Dealing with strong emotions*	.30
All routine encouragement	.34		
Pleasure, awe & wonder*	.33	Teacher approval to individuals	-.37
Information exchange to individuals	.32	Total guidance to groups	-.45
		Total guidance to individuals	-.60
Rules of social living*	-.31	All guidance	-.66
Total restriction to individuals	-.57	Rules of social living*	-.68
All restriction	-.62	Total restriction to individuals	-.84
Control and restraint*	-.68	All restriction	-.86
		Control and restraint*	-.86

*Lessons Taught

It can be seen that children's responses are high when teachers behave in certain specific ways. Positive responses from children are highly related to encouragement, especially nonroutine encouragement. They are also related to teacher emphasis on verbal skills, and to lessons in consideration, creativity, and pleasure, awe and wonder. They are negatively related to restriction, guidance, and to lessons in control and restraint and rules of social living.

The behavioral variables which have been described as related to high children's responses, both for teachers and for center program, are those which also have been consistently predictive of sensitive teacher manner.

Structural Characteristics

Several structural characteristics--activity settings, time of day, and age of children--are predictive of differences in children's responses. Table 148 shows the relationship of activity settings to children's responses.

The table indicates that most activities are capable of evoking the full range of responses, although some activities clearly hold children at peak interest more easily than others. Free choice consistently draws high responses. Free play appears to hold less interest, but seldom evokes responses in the lowest category. Teacher-directed group activities often draw relatively high responses, while teacher-directed individual activities appear less interesting. The routines of lunch and snack generally rate toward the lower end of the continuum.

TABLE 148

RELATIONSHIP BETWEEN CHILDREN'S RESPONSES AND TYPE OF ACTIVITY

CHILDREN'S RESPONSES	TYPE OF ACTIVITY						
(N=943 observ.)	Free play (N=291)	Free choice (N=219)	Tch.-dir. group (N=208)	Tch.-dir. indiv. (N=126)	Juice, snack (N=17)	Lunch time (N=56)	Clean-up, toilet (N=26)
Very high	9.6%	21.9%	17.3%	13.5%	17.6%	8.9%	0.0%
High	48.8	54.3	36.5	34.9	17.6	28.6	26.9
Average	28.2	20.1	30.2	23.8	29.4	44.6	38.4
Low	10.7	2.7	10.6	23.0	29.4	14.3	26.9
Very low	2.7	0.9	5.3	4.7	5.9	3.6	7.7
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Children's responses show only limited relationship to time of day. They remain fairly constant throughout the day, and obviously are determined primarily by other factors. It can be noted that many high ratings occur for early morning and also (perhaps surprisingly) for the late afternoon period. (See Table 149.)

TABLE 149

RELATIONSHIP BETWEEN CHILDREN'S RESPONSES AND TIME OF DAY

CHILDREN'S RESPONSES	TIME OF DAY			
(N=1557 observations)	Before 9:00 A.M. (N=179)	9:00 A.M. lunch (N=1082)	Lunch pre-nap (N=99)	End of nap to 6:00 PM (N=197)
Very high	8.4%	12.9%	7.1%	18.3%
High	57.5	38.8	28.3	43.1
Average	21.2	29.3	44.4	22.8
Low	10.1	13.1	16.2	10.1
Very low	2.8	4.9	4.0	5.6
	100.0%	100.0%	100.0%	100.0%

Children's responses are somewhat related to age of children. The most positive responses are found for four-year-old and mixed-age groups of children. The younger the children, the less likely they are to be rated as interested. (See Table 150.)

TABLE 150

RELATIONSHIP BETWEEN CHILDREN'S RESPONSES AND AGE OF CHILDREN

CHILDREN'S RESPONSES	AGE OF CHILDREN			
(N=1557 observations)	Twos (N=364)	Threes (N=201)	Fours (N=341)	Ungrouped (N=651)
Very high	9.3%	13.9%	16.4%	13.8%
High	36.3	32.3	40.8	46.1
Average	30.5	30.8	28.2	26.9
Low	17.6	15.9	11.4	9.3
Very low	6.3	7.0	3.2	3.8
	100.0%	100.0%	100.0%	100.0%

In general, while structural characteristics of centers predict children's responses to some extent, it is apparent that other variables of more importance, notably, aspects of teacher behavior, intervene to influence children's behavior. Since teacher behavior and children's responses are highly related, characteristics of staff and organizational characteristics of centers previously described as predictive of teacher behavior are found also to be predictive of children's responses.

Characteristics of Staff

The relationship of characteristics of staff is summarized below in Table 151 by showing the factor loadings of these characteristics for Pattern I as described earlier. All loadings show relationships with reference to the Freedom and Encouragement poles of the patterns described.

TABLE 151

STAFF CHARACTERISTICS RELATED TO PATTERN I:
TEACHER BEHAVIOR AND CENTER PROGRAM

STAFF CHARACTERISTICS	TEACHER PATTERN	CENTER PATTERN
Adult-centered role concept	-.30	-.46
Non-permissive attitude toward :		
Affection	-.58	---
Dependency	-.45	---
Warmth	-.59	-.49
Aggression to adults	-.55	---
Arbitrary requests for obedience	-.40	-.45
Greater special training*	.40	-.01

* For the center pattern it is special training of directors which is rated.

The only characteristic which shows no loading for this factor is special training of the director. As was indicated previously, effective leadership within a center evidently requires knowledge and abilities which are not acquired by taking the same course work which apparently is effective in modifying the behavior of teachers who work directly with children.

Organizational Characteristics

Behavior and characteristics of staff, both predictors of children's responses, are not independent of organizational characteristics. These determine certain features of the day care settings in which teachers and children interact, as well as certain attributes of the people who will be in these settings.

Responses vary by size of centers. No large center has children's responses rated as very high. Over 40 percent of large centers are rated below average in responses of children. The entire range of responses is found for small centers, but the most common rating is average. Medium size centers have the largest number of high ratings, and only one out of the twenty-five medium size centers is rated in the lowest category of response. (See Table 152.)

TABLE 152

RELATIONSHIP OF CHILDREN'S RESPONSES TO SIZE OF CENTER

CHILDREN'S RESPONSES	SIZE OF CENTER		
(N=50 centers)	Under 30 (N=11)	31 to 60 (N=25)	Over 60 (N=14)
Very high	18.2%	32.0%	0.0%
High	18.2	20.0	28.6
Average	36.4	16.0	28.6
Low	9.1	28.0	28.6
Very low	18.2	4.0	14.3
	100.0%	100.0%	100.0%

Grouping practice shows some relationship to children's responses. Only one center which is basically grouped is rated as very high in children's responses. However, consistent grouping is used primarily in large centers, so that the effects of grouping cannot be separated from those related to size. (See Table 153.)

TABLE 153

RELATIONSHIP BETWEEN CHILDREN'S RESPONSES AND GROUPING PRACTICE

CHILDREN'S RESPONSES	GROUPING PRACTICE		
(N=50 centers)	Basically grouped (N=12)	Occasionally ungrouped (N=29)	Ungrouped (N=9)
Very high	8.3%	17.2%	44.4%
High	25.0	27.6	0.0
Average	25.0	20.7	33.3
Low	33.3	24.1	11.1
Very low	8.3	10.3	11.1
	100.0%	100.0%	100.0%

Children's responses show little relationship to type of service offered. Centers which offer only day care have somewhat larger percentages in the categories of children's responses rated above average, but these differences are not extensive. (See Table 154.)

Possibly it is more difficult to offer a program eliciting high children's responses in centers which offer more services (and hence may be more complex). However, limiting service to one function obviously does not guarantee high responses.

TABLE 154

RELATIONSHIP BETWEEN CHILDREN'S RESPONSES AND TYPE OF SERVICE

CHILDREN'S RESPONSES (N=50 centers)	TYPE OF SERVICE Day care only (N=38)	Day care and nursery school (N=12)
Very high	23.7%	8.3%
High	23.7	16.7
Average	21.1	33.3
Low	23.7	25.0
Very low	7.9	16.7
	100.0%	100.0%

Children's responses vary somewhat with sponsorship. High children's responses are more characteristic of public than of proprietary centers. Low responses occur with about equal frequency for both. Taken as a group, children's responses in proprietary centers are most frequently rated as average. The number of non-profit centers is too small to permit generalization. (See Table 155.)

TABLE 155

RELATIONSHIP BETWEEN CHILDREN'S RESPONSES AND SPONSORSHIP

CHILDREN'S RESPONSES (N=50 centers)	SPONSORSHIP Proprietary (N=30)	Non-profit (N=5)	Public (N=15)
Very high	16.7%	40.0%	20.0%
High	13.3	0.0	46.7
Average	33.3	20.0	6.7
Low	23.3	40.0	20.0
Very low	13.3	0.0	6.7
	100.0%	100.0%	100.0%

Summary

In summary, both the characteristics of teachers and those characteristics which alter settings in which teachers and children interact appear to influence the ease with which high responses may be elicited from children. In the next section we will examine individual centers which are successful or unsuccessful in eliciting positive responses from staff and children.

Characteristics of High and Low Quality Centers

High responsiveness of children, sensitive and friendly teacher manner, and teacher behavior characterized by responsive encouragement are among the criteria we selected in this study for identifying good programs for children in day care. Our analysis of data has made it clear that children's responses and teacher manner are strongly correlated, and that both are predictive of patterns of teacher behavior. Further, some settings are much more likely than others to elicit positive interaction of teachers and children and thus, in our conceptualization, to support good program.

In order to clarify these relationships, we have classified the centers in our sample in terms of their quality based on children's responses and teacher manner. In the thirteen centers designated as high quality, teacher manner was rated as sensitive and children's responses as high or very high; in the eight low quality centers teacher manner was rated as insensitive and children's responses as low or very low. We have compared these centers in terms of teacher behavior and setting variables, as discussed below.

To compare differences in teacher behavior we ranked all fifty sample centers from high to low according to their percentages of behavior in each of the major categories and divided this ranking into thirds designated as high, medium, and low. Table 156 shows differences in teacher behavior for centers of high and low quality.

The most consistent and striking differences between centers by quality are found in the categories of encouragement, guidance, and restriction. High quality centers characteristically do not rank low in encouragement nor high in guidance and restriction. Centers of low quality present the opposite picture. Other categories of behavior do not appear to be related to our criteria for quality.

Certain categories of lessons taught also vary according to quality of center. (See Table 157.) The largest differences are in rules of social living and control and restraint. In the category of control and restraint, the highest percentage for any center of high quality was eleven percent and five of the thirteen had no lessons in this category. Among centers of low quality the range was from eighteen percent to forty-six percent. Differences also are apparent in all other categories except for those dealing with physical skills and knowledge and awareness.

The frequency with which extremes in tempo were observed also differed between the two groups of centers. In centers of high quality the mean percentage of observations

TABLE 156

TEACHER BEHAVIOR CATEGORIES BY QUALITY OF CENTER

CENTER QUALITY	TEACHER BEHAVIOR						
	Total Encouragement	Non-routine encouragement	Teacher direction	Guidance	Restriction	Neutral	Verbal skills
High quality							
Proprietary							
H1	0	+	0	0	+	-	0
H2	+	+	+	-	0	-	0
H3	0	0	0	0	0	+	0
H4	0	0	-	0	-	+	0
H5	+	+	0	-	-	+	0
H6	0	0	+	+	-	0	0
Non-profit							
H7	+	+	0	-	-	0	+
H8	+	+	-	-	-	0	-
Public							
H9	+	+	-	-	0	+	+
H10	+	+	-	-	0	0	0
H11	+	+	-	0	0	0	-
H12	+	+	0	0	-	+	0
H13	0	+	0	0	-	0	+
Low Quality							
Proprietary							
L1	-	-	0	+	+	+	0
L2	-	0	0	+	+	0	-
L3	-	-	+	+	+	-	0
L4	-	-	+	+	+	-	+
L5	-	-	-	0	+	+	-
Public							
L6	-	-	-	0	+	0	-
L7	-	-	+	+	0	+	0
L8	-	-	-	+	+	0	-

0, medium; +, high; -, low

TABLE 157

LESSONS TAUGHT BY QUALITY OF CENTER

(Figures are mean percentages)

LESSONS TAUGHT (N=21 centers)	CENTER QUALITY High (N=13)	 Low (N=8)
Physical Skills		
Large muscle	0.2%	0.5%
Eye-hand coordination	2.5	7.0
Verbal-physical coordination	5.3	6.6
Social Skills		
Rules of social living	7.2	21.1
Dealing with other children	8.9	1.6
Consideration	17.0	3.7
Intellectual Skills		
Formal skills	5.5	13.8
Knowledge and awareness	8.4	7.5
Pleasure, awe and wonder	12.5	3.0
Self-Responsibility		
Self-sufficiency	13.0	3.3
Creativity and experimentation	11.2	5.3*
Control and restraint	3.3	25.9
Dealing with strong emotions	1.1	0.1
Can't Decide	16.7	11.2

*Excluding one center with a figure of 31%, the mean would fall to 1.5%.

rated as lethargic was 0.3 percent, in centers of low quality 7.0 percent. None of the high quality centers had any observations rated rushed, but low quality centers had 4.5 percent such observations. The incidence of observed extremes in tempo was virtually absent in centers of high quality, while seven out of eight centers of low quality showed observations in which one or both of these extremes was indicated.

Table 158 shows other selected characteristics by quality of centers. Although there is considerable range in characteristics within categories, certain features are noteworthy. For example, all types of program format may be found in high quality centers, but free choice is most common. In contrast, free choice formats are not found in centers rated as of poor quality. Space in high quality centers ranges from average to excellent (score 1 - 4 on the continuum) while in low quality centers it ranges from good to very bad (score 3 - 7). No director in centers of low quality described a role which was other than adult-centered. Finally, no center of large size is found in the high quality group, but fifty percent of the centers rated as low in quality are large in size. Socioeconomic level or ethnicity of clientele does not appear to vary by quality of center.

Summary

In summary, sensitive teachers who tend to behave toward children in an encouraging rather than a restrictive fashion elicit strongly positive responses from children.

TABLE 158

SELECTED CENTER CHARACTERISTICS BY QUALITY OF CENTER

CENTER QUALITY	SELECTED CENTER CHARACTERISTICS				
	Program format	Space	Director's role concept	Size	SES
High quality					
Proprietary					
H1	free choice	average	adult-centered	small	III
H2	tch.-dir./free play	---	semi child-centered	medium	II
H3	free play	average	custodial	medium	II
H4	free play	good	semi child-centered	medium	II
H5	free choice	good	semi adult-centered	small	II
H6	teacher-directed	average	child-centered	medium	II
Non-profit					
H7	free choice	excellent	child-centered	medium	IV
H8	free play	excellent	semi adult-centered	medium	II
Public					
H9	free play	excellent	semi adult-centered	medium	III
H10	free choice	excellent	child-centered	medium	III
H11	free choice	very good	semi adult-centered	medium	III
H12	free choice	---	child-centered	medium	III
H13	free choice	very good	child-centered	medium	III
Low quality					
Proprietary					
L1	teacher-directed	good	adult-centered	medium	I
L2	tch.-dir./free play	bad	adult-centered	large	II
L3	tch.-dir./free play	bad	semi adult-centered	small	III
L4	tch.-dir./free play	average	adult-centered	small	III
L5	free play	very bad	adult-centered	large	II

TABLE 158 (Cont.)

SELECTED CENTER CHARACTERISTICS BY QUALITY OF CENTER

CENTER QUALITY	SELECTED CENTER CHARACTERISTICS				
	Program format	Space	Director's role concept	Size	SES
Low quality (cont.)					
Public					
L6	free play	average	semi adult-centered	medium	III
L7	teacher-directed	very bad	adult-centered	large	IV
L8	free play	good	semi adult-centered	large	III

This behavior is most likely to occur within a free choice program format, and in medium-size centers in which space quality is relatively good. On the other hand, insensitive, restrictive teachers gain less response from children. Settings characterized by large center size, relatively poor physical space, and an adult-centered role concept on the director's part are more likely than other types of settings to elicit such teacher behavior.

There does not seem to be any consistent feature of centers of high or low quality which would exclude any category of parents from the possibility of enrolling their children in either type of center. Neither sponsorship nor socioeconomic level and ethnicity of clientele is clearly predictive of differences in quality. Rather, chance factors such as geographic accessibility appear to determine availability of high or low quality care.

CHAPTER X

GROUP DAY CARE AS A CHILD-REARING ENVIRONMENT

The kinds of behavior which come to characterize adult-child interaction, either at home or in a day care center, are those which make the process of living together at least bearable for adults and safe for children. In either environment, if these essentials can be met with time and energy to spare, consideration can be given to the developmental needs of the individual child. The extent to which such consideration can be provided depends in large measure on the amount of flexibility which the setting offers to the adult and the range of stimulating opportunities which it offers to children. Flexibility and availability of stimulating opportunities appear to be highly interrelated; the presence of one creates the circumstances which can provide the other. Within this matrix the individual capacities and needs of both adults and children will affect their ability to capitalize on the possibilities which exist.

Determinants of Flexibility and Stimulation in Home and Day Care Environments

We may speculate that flexibility and stimulation within homes as child-rearing environments depend on a number of characteristics, among them the following:

Physical space is generally recognized as important to adult-child relationships. It is relatively difficult to raise children in small apartments, relatively relaxing to do so on farms. Spaciousness, accessible outdoor space, safety and interest of the physical environment all serve as criteria in this distinction.

The number and quality of adult-adult and adult-child relationships are also relevant. In general, an adult is freer if not too many children must be cared for (although it is probable that as the number of children declines toward one, the intensity of the relationship may increase and counteract the decrease in number). The availability of other adults also has a freeing influence, provided the relationship they offer is supportive. A mother with a husband who gives her emotional support, even if he does not actually help in the physical care of children, can probably be more flexible in child-rearing than a divorced mother. Relatives available for regular or occasional assistance also add to a mother's flexibility.

Financial resources influence flexibility and range of stimulation in child-rearing in various ways. One effect of poverty is the limitation of choices within the social structure; not only in the purchase of goods, but also in access to services (medical services, for example, and how long one must wait to get them), the poor have fewer options.

Time schedules in homes where the mother does not work are usually flexible. They may become more complex and demanding if older children must be transported to school, or if a father works nights and must sleep during the day. Maternal employment, especially on a full-time basis, serves as a particularly crucial interference with flexibility in child rearing. The mother who must be at a place of employment within a set work schedule and who cannot take her child with her is forced to provide substitute care conforming to this schedule. The remaining time she spends at home with children is likely to be constrained by the urgency of household tasks, schedules to be met, and tiredness.

Educational level, in a non-traditional society without standardized procedures and goals for child rearing, probably increases an adult's potential resources in coping with children.

The existence of both part- and full-day nurseries in contemporary society reflects the existence of home settings characterized by reduced flexibility. Nurseries are found, ordinarily, in urban areas where physical space in home and neighborhood is limited and where relatives may be unavailable, or where small families have increased the intensity of mother-child relationships beyond the comfort level. Centers offering full-day group care represent a compensatory arrangement for the extreme lack of home flexibility in child rearing which results in some families from maternal employment.

The characteristics which make for flexibility and stimulation in day care centers are, in many respects, similar to those described for homes. This similarity is not surprising, since both have in common the function of providing a child-rearing environment. Our findings have indicated that flexibility and stimulation in centers are predicted by the following:

Quality of physical space, as indicated primarily by the degree of organization and interest of play areas.

Size of center, which determines the numbers of people in the setting. In very small centers the number of adults is so limited that flexibility probably is decreased. In very large centers, the need to mesh schedules and maintain administrative order works to limit the freedom of both teachers and children.

Grouping practice, which determines the kinds of people in a setting. When children are ungrouped, flexibility and stimulation apparently are increased by the variety in age of children and usually by the pooling of teachers, so that more than one teacher is available within the setting.

Program format, which determines the amount of initiative and activity which is required of teachers and permitted to children.

Competence of staff, as indicated by clarity of role concept and amount of special training. Flexibility apparently is increased when the teacher's or director's role concept is child-centered and is accompanied by attitudes of warmth and preference for situation-centered authority.

Although both home and day care center share responsibility for the care of children, they differ in other respects. First, the roles of the adults in these settings differ. A mother at home typically has responsibilities for a wide range of homemaking tasks in addition to caring for children, while teachers are responsible only for child care. This difference in roles, combined with differences in the number of adults and children in a home as compared to a day care center, results in scheduling which is more flexible in homes than in centers. In the home schedules are *ad hoc* and designed to meet the exigencies of the moment, while those in day care centers are subject to much more planning and not easily changed to meet a momentary need. Given these differences in the two environments, it is probable that the needs of children can be met by both, but that certain needs will be better met in one setting than in the other.

It will be evident to the reader that the characteristics we have described as fostering flexibility and stimulation in homes are most likely, in contemporary American society, to be found in middle-class homes in residential neighborhoods. Consequently, our hypothesized contrasts between care at home and in day care centers and their presumed effects on children are generalizations probably most applicable to such homes. To the extent that the reader is disinclined to view such homes as providing relatively favorable child-rearing environments, he may take issue with our selection of some of their characteristics as criteria for judging certain aspects of day care.

Further, as we proceed in the following section to discuss the liabilities of day care, a cautionary note is in order. In the day care programs in which we have observed, standards for health and safety and for conscientious care of children are notably high. They clearly represent the outcome of many years of effort to establish licensing and other community standards, and we are appreciative of this fact. It is precisely because basic standards in these programs are adequate that we feel justified in giving extensive attention, in our evaluation, to more subtle considerations concerning the nature of the group experience for the individual child.

Potential Assets and Liabilities of Home and Day Care Environments

A good home, as we conceive it, offers to the child a family and neighborhood environment rich in both cultural and natural representations, in which he can move about to a considerable extent according to his own inner time schedule. Adults are present, engaged in various tasks; the child is able to observe daily activities in the home and neighborhood, and other adult roles while participating in trips to stores and other community settings. Because adults at home have other things to do, he is often out of their sight; consequently he has opportunities both for privacy and for deciding whether to conform to or break rules. These opportunities to exercise initiative, in deciding what to do and when, whether to be alone or with others, and whether or not to live up to adult expectations for his behavior, are used by the child in developing his sense of personal identity, his concept of who he is and what he can do.

In the home a child's self-knowledge is also fostered through his almost unlimited access to an adult who can answer his questions of the moment and who will respond with warmth and concern to his attempts to comprehend the world and give it form through language. Perhaps the strongest impetus toward growth is provided by his family's interest in his individual style of development, their encouragement of his new accomplishments, and their readiness to modify family activities and schedules to meet his particular needs. Under these circumstances it is clear to the child that he is important, and that how he feels and what he does matter to others.

Homes may have disadvantages as well as advantages as child-rearing environments. Chief among these are intensity of interpersonal relationships, inconsistency in adult behavior in relation to children, and a limited setting for social interaction. Parents often find it difficult to be objective in dealing with their children, who represent for them strong sources of emotional gratification. They may misjudge some needs of children while overindulging others, and the love and anger they offer will reflect their own feelings of the moment, which may interfere with a consistent response to a child's behavior. Further, many homes offer young children only limited opportunity to develop new relationships with other adults and children, and to gain confidence and skill in leaving parents and forming friendships.

Day care centers have some comparative assets. They can offer a setting in which children experience good physical care, a stability of routine, and consistency of discipline within an environment which offers rich opportunities for mastering a variety of social skills. These range from social rules and elements of courtesy to real competence in social interaction with other children, in which the child learns both to exert himself and to give in without threat to his self-esteem.

Furthermore, a good day care center offers an environment in which the variety of play materials and equipment is superior to that in most homes. In such centers climbing apparatus, swings, sand box, playhouse and a wide variety of art materials, books, games, and puzzles are standard equipment. The learning opportunities available to children in such settings are many, particularly when a skilled teacher is active to help children make full use of the environment.

On the negative side, certain developmental experiences are not easily provided children in group day care. Among these are opportunities to be private, to observe the adult world, and to test one's limits of skill and competence.

Few day care centers offer opportunities to the child for privacy. Individual children seldom are permitted to remain indoors if the group is outside. Most play yards are designed so that children can not go off into secret crannies. During nap time cots are placed in an open room; provision of semi-privacy at naptime usually carries the connotation of misbehavior. Typically, in day care, children are not permitted to be out of adult view and consequently are, in most settings, also continually accessible to other children.

Opportunities to observe the adult world also are difficult to provide. In very few centers are children taken on excursions into the community; many do not permit children outside the premises even for a neighborhood walk. If a center does not have a view of the street, and if the cook, handyman, and cleaning woman have no contact with children, the children's experience is even more highly restricted.

Opportunities to test the limits of skill also appear limited. For children of this age, skills usually are physical. Play equipment such as tricycles, swings, and jungle gym are mastered relatively soon, and teachers often seem overly restrictive toward any attempt to use them in unorthodox (and more challenging) ways.

All three of the experiences described are probably restricted because of concern for safety. It is felt that children must be within the teacher's field of vision, and must not leave the premises unless the center carries special insurance; that they should not be in dangerous places such as kitchens, or near men working with tools. Finally, they should not be permitted to engage in dangerous activities such as high climbing or fast running. The restrictions just described ordinarily are not found in a home.

Reasons of safety, we suspect, are sometimes offered as a rationalization for limiting activities and behavior which lead to discomfort among staff. Program in day care centers appears to be marked by an absence of strong feelings and of activities which might evoke them. This absence is indicated by the very low incidence of lessons in dealing with strong emotions and the relatively low percentage (in most centers) of lessons in pleasure, awe and wonder. Here again we felt that many staff were afraid that open expression of strong desires, in the form of anger, dependency, or abandoned exuberance, would lead to behavioral contagion and chaos.

Perhaps another explanation of the low-key tempo and bland atmosphere of many day care centers is due to the smooth, predictable scheduling. It has struck us that one of the advantages of a good home is that it is not programmed, but is primarily a place where the mother occupies herself with a continual meeting of immediate needs, many of them having little to do with children. In the course of this activity she provides a child-rearing environment which has a broad range of stimuli. It is often the circumstances which are problems to her that provide opportunities for children to see how the adult world operates and that the unexpected can be handled. The water heater goes bad and brings a plumber to the house, the car breaks down and necessitates a trip to the garage, groceries must be purchased to feed unexpected company, a gift selected, a neighbor is sick and leaves her children for the day. Each of these events produces an input of novel stimuli. In contrast, a smoothly running day care center can quite easily insulate children from unplanned encounters; they may have no contact with the kitchen, the street, or anyone coming in the front door. This results in a monotony which must be as deadly for adults as for children.

A marked absence of opportunities for privacy, observation of adult transactions, testing of limits, strong emotions, and unexpected events would seem to limit a child's chances for self-definition and a sense of identity and competence. Nor does day care give children as much access to adult attention as they would have in a good home. Even in the best of centers individual attention is limited, and in those of poor quality it is almost non-existent unless procured by behavior which demands adult intervention. Perhaps the greatest liability in day care placement lies in the likelihood that neither parent or teacher will be able to pay close attention to the individual unfolding and development of the child. Only one teacher in our sample clearly described keeping track of individual development as her most important job. Yet it is precisely this kind of sensitivity which enables a good mother to support and draw out a child's potential.

We may conclude that except where teacher warmth, skill, and adherence to child-centered goals are high and the environment offers a wide range of opportunities, placement in group day care seems likely to reduce, rather than enhance, a child's sense of his own importance, and to offer relatively limited experiences which foster a sense of self-identity. At a very early age a child is expected to subordinate his private needs to those of a group, to get along with relatively little nurturance and personal attention, and to adapt to being cared for by a series of adults. A day care center in which these expectations predominate constitutes an impersonal child-rearing environment.

Considerable learning must precede effective role functioning in impersonal settings. Public schools expect children of five or six to have sufficient maturity to cope with the demands of a task-oriented classroom. Younger children are not, however, developmentally ready to spend long hours in an impersonal environment. The development of initiative rather than guilt (Erikson, 1950) requires an environment which is challenging and stimulating but also offers personal support from dependable adults. For these reasons, we suggest that attendance at a day care center, which involves separation from home and family and a more complex set of relationships than is characteristic of the home, is a potentially stressful environment for young children.

The extent to which day care is stressful depends partly on the quality of care and partly on the needs and capacities of the individual child. In the section which follows we will consider the possible differential impact of day care upon children of different family and personal characteristics.

Differences in Needs and Capacities of Children

Which children can benefit from day care? We are not directly testing this question in the present study, and in consequence our answers must be largely speculative. However, we have some information about the types of children in day care, which, taken together with what we know about program, gives us some basis for estimating outcomes.

We have assumed that day care functions both to substitute for a good home, and to compensate for possible deficiencies in the home environment by enriching children's experiences in desirable areas. Of the types of individual differences discussed below, family structure and status, and ordinal position of the child in the family may be particularly relevant to the compensatory function of day care, while the child's age and temperament suggest the extent to which day care may be appropriate for him.

Family Structure and Socioeconomic Status

The majority of children in public day care centers, and some children in nearly all centers, come from one-parent families. Children without a father at home seem most likely to benefit from day care in centers where a husband-wife team creates a home-like setting and provides a father-figure and male model. In this respect it is important to note that public centers rarely have a man assuming an active role of this type.

Children's needs may also vary with their families' socioeconomic level. Children from families of low socioeconomic status more often have more siblings and an absent father. Because of the demands on the mother it may be difficult to provide a young child with the personal attention which we have supposed necessary to facilitate his development. For some children group care may be an improvement in this regard.

The extent to which day care fosters self-esteem in children is particularly relevant in relation to the socioeconomic level of the child's home. Compensatory education preschool programs are operating on the assumption that recognition of oneself as a significant individual is one important prerequisite for later intellectual development, and that children of poverty frequently are handicapped in developing such a sense of identity (Deutsch, 1963). If this assumption is correct, then the lower the socioeconomic level of the child's home, the more important it is that the center meet developmental needs as we have outlined them, and that teachers be perceived by the children as accessible to children on an individual basis.

There are, of course, some children at all socioeconomic levels who come from homes which are disorganized and in which parents are unable to offer sensible discipline and supportive warmth. A compensatory environment offered by the day care center may be expected to benefit some such children.

Ordinal Position in the Family

In a previous study (Prescott, 1965), we found that day care appears to be selective according to ordinal position in the family. Most of the children in our sample were only children or the youngest in a family with two or three children. Birth order may have some relevance both to the child's adjustment to day care and to the potential contribution of the group experience to his development.

An only child may benefit from an environment which provides opportunities for participation with peers in a setting where he can get a more realistic picture of his importance and of his rights and responsibilities. Youngest children may not benefit in the same way, but are perhaps relatively adaptable as a result of their family position.

Age of Children

It has been frequently suggested in discussion of day care standards that group care may be detrimental to very young children, notably two-year-olds. Our data indicating that four-year-olds were generally more interested and involved than were younger children support this point of view. Developmentally, four-year-olds would seem most ready to profit from an experience which provides a taste of life away from home, especially if the adults in the setting are warm and stimulating. Two- and three-year-olds are more vulnerable; they ordinarily have not yet established the clear sense of self which gives the four-year-old his confidence and exuberance.

Wide age range groups appear most likely to foster positive experiences for younger children provided adequate protection for their smallness can be given. Two- and three-year-olds have more capacity for observing and imitating models (older children and adults) than for sustained cooperative play with age-mates. The presence of four-year-olds offers the two-year-old challenge, occasional protection, as in large families, and an idea of how big he may become.

Differences in Temperament

Individual children differ markedly in their sensitivity to stimuli. Just as a person who is relatively insensitive to pain may be said to have a high pain threshold, some individuals have generally high sensory thresholds. They contrast with others who react strongly to noise, motion, and other types of stimulation and who may be characterized as having low sensory thresholds.

Temperamental differences in children which appear likely to affect their adjustment to day care include both sensory threshold and energy level. For example, children with high energy levels and high sensory thresholds probably would thrive on a rich day care program. Children with these characteristics who come from homes where stimulation is limited and parental discipline is inconsistent or weak may be expected to benefit greatly from placement in a good day care center.

Children with low energy levels and low sensory thresholds, on the other hand, might find the environment overwhelming and respond with apathy. Those with high energy levels and low sensory thresholds probably would be overstimulated. In general, we would hypothesize that children with low sensory thresholds would not do well in day care.

Placement of Children in Day Care

While inappropriate placements of children in day care doubtless occur, we suspect that both initial and continuing enrollment of a child in day care reflects a self-selective process which involves both mother and child. As long as the choice of group day care is made by the family, the mother is relatively free to assess her own child's readiness and ability to cope with long separation and group experience. Many children who would be overstimulated or severely threatened by group day care are probably never enrolled at all. For those who do enter a program, their behavior following enrollment provides an important cue to both parents and teachers in indicating the wisdom of placement. The child who reacts with intensive separation difficulties, frequent illness, or chronic misbehavior will probably be withdrawn at the initiative of either the family or the center staff. Perhaps the child most in danger is the apathetic child who causes no problems and may go almost unnoticed in some centers.

It is, therefore, very important that group day care be a resource for families which is utilized by choice. "A good 'mandatory' day care program is a contradiction in terms."[1]

Conditions for Good Day Care

Good day care depends on three factors: the range of stimulating opportunities offered by the environment, the flexibility permitted to staff, and their personal competence in mediating between environmental opportunities and the developmental needs of children. The circumstances under which day care will function as a good home substitute, and under which program will vary to meet the varying needs of children, are predictable.

In summary, the kind of environment provided by a given day care center will depend on certain specific administrative decisions (notably those concerning size of center, physical plant, number of staff, qualifications of staff) as well as on program goals. Physical space and the equipment within it can facilitate or hinder teacher behavior of different sorts. Teacher behavior reflects both what the individual teacher is able to do (in terms of her personal and professional qualifications) and what she is allowed to do (within the center's administrative framework). Other pressures such as availability of funds, and demands, or the lack thereof, from clients will help to determine both what the center can afford to do, and what it must do to retain its clientele. In the next chapter we will consider ways in which intervention, on various levels, might increase environmental stimulation, flexibility, and competence of staff.

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[1] Statement of National Committee for Day Care of Children; for complete reference see Chapter I, p.6.

CHAPTER XI

INTERVENTION

Our ultimate goal in this study has been to recommend types of intervention which have potential for improving day care centers as an environment for children's growth. We began our research with the general hypothesis that the interactions which we observed among teachers and children are not chance occurrences, but are closely tied to the varied aspects of the social and physical setting in which they take place. We proposed that program is structured by settings, both physical and interpersonal, by staff attitudes and director's leadership style, and that these characteristics are in turn influenced by the professional preparation of staff and by sponsorship and other organizational characteristics.

Of the many variables we have examined, the majority do in fact predict differences in day care program. Where relationships among variables are predictable, intervention which effects change in any one variable in an interrelated pattern should result in eventual change in other variables as well. Not all, however, offer fruitful possibilities for intervention. Structural variables, in particular, often cannot be radically altered. Day care, as a setting for child rearing, appears to have certain built-in assets and limitations which can be most advantageously met by frank recognition of their existence, and by careful consideration of the possible effect on the child of the total environment (center and home) thus provided.

In the light of our criteria for evaluating day care, it is evident that intervention to improve day care program will be directed toward providing those conditions under which teacher-child solidarity is enhanced. Good day care for children is personal, concerned with individual children and their private needs and emotions. It will capitalize on those features of day care which can easily be offered, namely, a good social experience in a rich environment, and it will incorporate, in so far as possible, those features which are not easily included in a day care setting, such as privacy, observation of adult roles, expression of strong emotion (both negative and positive), and self-regulation.

Some types of change can be implemented by a director and teachers at the level of the individual center in its ongoing operation. Other changes are determined by decisions which have been or will be made outside of the center. In the discussion which follows, we shall first consider changes which can be made within the center by its staff. Then we shall examine decisions which are made outside of the center, but which appear to establish limits on what will later happen within the center. Finally, we shall consider some of the forces which now mediate between the center and the community or which might more effectively do so if they were mobilized.

Planning Within the Center

Organization of physical setting, program format, and deployment of staff and children within available space and time all reflect decisions made by the director and her staff. Changes can be initiated at any point, since the several factors are interrelated. It is important, however, that the staff begin any planning for change with a clear understanding of the experiences which their center does provide for children. One way to achieve this is to examine systematically all of the activity settings which the center provides, and the potential of each for meeting children's needs. Our categorization of activity settings has been presented in Chapter V; it includes both the essential settings of lunch, juice time, nap, toileting/clean-up time, and the optional settings of free play, free choice, and teacher-directed individual and group activities. The balance among the latter categories is subject to director and teacher decision, resulting in what we have called differences in program format.

For each setting these questions can be asked: What experiences are the children having? To what extent does the experience differ for various children? To what aspects of the setting is the teacher paying attention? What behavior characterizes most of the teacher's time (i.e., encouragement, guidance, etc., or non-communicative activities such as housekeeping chores)?

Within each setting there have appeared to us to be certain dimensions of flexibility. These are (1) the arrangement of the physical space, (2) the deployment of teachers and other staff within that space, (3) the grouping of the children, and (4) the scheduling of the activity. For most settings any or all of these factors might be altered, producing a marked change in the experience which a given setting provides.

To make this description more specific let us take the setting of lunch, which occurs in every day care center. We would not have believed at the beginning of the study that a lunch time might have so many variations. (In fact, we recommend visiting other centers as a means of visualizing the many choices possible to a staff within a center.)

Lunch can be a formal time where all children eat in the same room, where talking is kept to a minimum so that the noise level will be low, and where most conversation is initiated by the teacher to ask if a child wishes more food or to offer reminders about table manners. If everyone must finish at the same time, there is an awkward period at the end of lunch while the fast eaters wait for the stragglers to finish. In this arrangement the teacher is primarily concerned with physical needs and with manners and rules of social living. If the room is small, the placement of teachers at the tables injudicious, or the spacing of the tables close enough that children from one table can touch those at another, the result may be increased noise level and much restrictive activity on the part of teachers.

Sometimes lunch is served in small rooms or in alcoves which create an atmosphere of privacy. Invariably, this arrangement leads to more conversation. We have seen teachers who use the serving time to do a great deal of informal teaching. They might ask how many plates need to be filled, what we are having for lunch, whether peas are a vegetable or a fruit, and so on.

Other teachers use the lunch period to encourage children to verbalize their experiences of the morning, their anticipated plans for the coming weekend; as children finish eating they are encouraged to participate in the conversation. We saw one group which was cozily ensconced in a room just large enough to fit them, with a teacher who was a very good listener. As they finished lunch a question was raised about a boy no longer in their group. This led to a long discussion of being sick, dying, etc., giving the teacher many opportunities to clarify mistaken ideas which the children had. The physical setting plus a sensitive teacher built in opportunities for serious conversation.

Other centers use lunch as a time for displaying competence and hospitality. We have seen children take turns waiting on tables, scraping their plates and wiping the tables afterwards, thus permitting staff time to be used for other purposes. We have also seen children seated at small tables holding no more than four children and permitting more table conversation among all children than can usually be tolerated if everyone eats at a big table.

The period before and after lunch time is even more variable among centers. Some centers schedule a rest period which comes after morning clean-up and before lunch. To get through clean-up and to get all children to lie on their cots usually takes a great deal of guidance and restriction by teachers. Toward the end of the rest period some children invariably begin to fall asleep and have to be awakened. It would seem more sensible to encourage efficiency in the routine of clean-up by following it with an activity which is genuinely pleasurable to children, such as favorite songs, stories, or quiet conversation with their teacher in a cozy corner. In addition, one way of making day care more personal is to build solidly on the pleasures of communal eating by making pleasant not only the lunch time, but also the periods immediately preceding and following it.

While essential settings like lunch cannot be omitted, it is clear that what takes place within them is subject to substantial modification. The day's optional settings offer even more opportunity for modification, because staff have not only the choice of what is to happen within these settings, but also the choice as to how often a setting will be offered or whether a given optional setting will be used at all. As we have discussed previously, optional settings differ in the amount and kinds of coercion and freedom which are experienced by the teacher and the children within the center.

For example, teacher-directed group activity settings demand that children sit in close proximity to one another, and do not disrupt the activity by talking or moving out of the small space momentarily designated as theirs. This setting demands from children a certain ability to inhibit spontaneous motor responses, a task which some children find difficult. On the other hand, it does not ordinarily demand a response from a child, but rather permits him freedom to observe, to let his mind wander, or to respond (as in singing) as an anonymous member of the group. Such a setting is difficult for a highly active child who is overstimulated by close physical proximity to others, but it is probably unstimulating for an apathetic child with tendencies to daydream. It may be an ideal setting for a shy, self-conscious child who can both observe and participate safely in a group response. As we have already indicated, it is a setting which demands a high degree of activity on the part of the teacher. There is evidence in our data that teacher-directed settings (together with free choice settings) are most likely to provide stimulating experiences for children in the form of lessons taught and verbal skills. At the same time, these settings are difficult to sustain with young children; teachers are less likely to offer encouragement and more likely to become insensitive while conducting teacher-directed activities. These findings suggest that such activities have value provided they are not carried on too extensively.

A teacher-directed individual activity setting is more demanding for both teacher and children. Each child must follow directions and produce a response which is within the framework of teacher expectations. Within this framework, pasting is relatively undemanding, with teacher direction and child response primarily concerned with keeping paste and materials within the limiting boundaries of a piece of paper. However, if the finished product must resemble a pumpkin the teacher has complicated her role. Children may now, much more easily, initiate responses which lead to failure, or which may be interpreted as defiance. Children who are compliant and easily adapt to structuring provided by adults may find this a rewarding setting in which the end product is enhanced by teacher direction. Children who find it difficult to produce the appropriate response, possibly because of inadequate skills or a need to initiate on their own, may find this a setting which demands that they accept failure.

In free choice and free play settings, children are expected to take the initiative in choosing among a variety of possible learnings. Such settings can provide a welcome change for both children and teachers following teacher-directed activities, as well as having basic values of their own.

It is our impression that free play offers a very beneficial environment when it occurs within the combination (often a chance combination) of good physical space, a group of children who get along well together, and sensible scheduling. To function successfully in a free play setting, a child must be able to take the initiative in finding things to do, and to be in the presence of other children without interfering in their activities. The emphasis is on spontaneous interaction among children and the opportunity for developing social skills is great. The teacher has substantial freedom to relax and to pay attention to individual children, as long as group play goes smoothly. However, where space is poor or individual children disruptive, apathy, bullying, or overstimulation of some children may characterize this period.

In free choice settings the teacher, having taken the initiative in selecting and preparing special activities, typically takes a more active role in encouraging children's participation. In some cases her encouragement may verge on manipulation, and neither teacher nor children are quite clear about who is making the choices; where this occurs, the alternation of authority and freedom which characterizes teacher-directed/free play programs would seem to offer a healthier environment for growth. In general, however, free choice program has rated highest on all our criteria. Carrying it out requires both good space, to support the play occurring concurrent with the special activities, and competent staff.

Simplification and Enrichment

Flexible space arrangements and grouping practices give staff in a center a basis for flexible planning to meet children's needs. Within all settings, both optional and essential, it is possible for staff to plan the physical space and grouping of teachers and children with the goal of either simplification or enrichment for children. When a teacher simplifies, she regulates, either for the group or for an individual child, the complexity of the surroundings.

Children need a simplified environment when they are feeling little, tired, unhappy, or out of control. Simplification consists in reducing the number of stimuli and alternative choices; practically, it can be provided by isolation and privacy, by supportive individual attention from an adult, or by firm enforcement of limits in a non-punitive manner.[1] In day care such feelings are most likely to be prevalent in the early morning and, especially, at the end-of-the-morning lunch and pre-nap period. (We would expect late afternoon to be another such time, but our data on teacher behavior and children's responses did not seem to bear out this expectation.)

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[1] A warm lap with enclosing arms is probably the simplest possible environment for a small child. Some teachers in day care express the feeling that if laps were made available, teachers would be continually smothered. But teachers who do hold and hug seem to survive happily and undamaged. It is important to recognize that no healthy child wants to be held all the time, and that if the teacher with a dozen children is known by ~~them~~ to be available for hugging when needed, it is statistically unlikely that all twelve will be feeling dependent simultaneously. It is, furthermore, possible to take turns on laps and being little and loved, just as it is on tricycles and being big and powerful.

When a teacher enriches, she acts as an innovator. Enrichment consists of adding to the environment by providing a wider range of experiences, sometimes by increasing the number of choices at any given time, but more often by providing or introducing experiences not previously offered (i.e., by adding novelty). A change from a teacher-directed to a free choice program format would increase opportunities for choice. The addition of animals to the play yards or water to the sand pile, changing the table arrangement, eating hamburgers outdoors, or having a policeman visit all would provide novelty.

Sometimes a teacher may both simplify and enrich simultaneously. To return to our lunch time example, presented above, it seems likely that grouping children with one adult at small tables spatially separated from other tables has the virtue of simplifying the interpersonal and physical environment for children at a time of day when they are tired. At the same time, this arrangement can be utilized by individual teachers for enriching children's experience through conversation and informal teaching.

Both teachers and children can become bored and apathetic in environments in which nothing unpredictable ever happens; and not only teachers, but children as well, can make real innovations in the program. One way to make innovation by children possible is to avoid making many absolute rules which apply to all children all the time. For example, across-the-board prohibition of walking up the slide reflects the teacher's concern that children not bump into each other while sliding and, perhaps, her general sense of fitness: slides are for sliding. But for a four and one-half year old with two years' experience in day care there is no challenge in sliding; he is looking for new worlds to conquer. His cognitive awareness that a slide is also a ramp which can, with skill, be climbed will lead him to innovative behavior which does not really pose much of a threat to group safety. Two-way traffic on slides is quite possible if smaller children going the usual direction learn to wait occasionally for a big one coming up, and if the big one pays attention to those about to slide. In the process, everyone's ability to make fine distinctions is sharpened; learning that "you may not walk up the slide when someone is in the way" stretches a child's cognitive and perceptual capacities far better than learning "you may not walk up the slide, period."

Of course, there probably will be some children who, because of lack of physical competence or social responsibility, should not be permitted this particular innovation. Teachers who work with young children can be expected to have some skill in judging developmental readiness, and they should have freedom to compensate for the "groupness" of day care by making some decisions suitable to the situation and the child. Children can understand rules of this sort, and learn more from them than from rules which apply to all children without regard to the differences among them. Overt recognition of differences in competence gives children a clearer sense of who they are, how they are like and different from others, and what they have to look forward to as they grow.[2]

Novelty can be introduced not only through the initiative of teachers and children, but also through planning and policies designed to incorporate chance external events into the program. We have previously suggested that some centers appear to benefit from the presence of a lively elementary school yard or busy street, visible through the fence. Visitors to the center, whether repairmen, student observers, or a mother not in a hurry to leave, can be capitalized on rather than kept inaccessible from children. (We observed in one center in which the coffee pot was on in the early morning, the husband and wife directors were sitting drinking coffee as children arrived, and mothers were encouraged to stay for a cup--thus beginning the day with a relaxed transition between home and center.) Personnel with regular tasks of interest to children--cook, housekeeper, custodian--can be available to be watched and talked to by individual children.[3]

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[2] It is our impression that the same general goals of increasing the child's sense of identity may be accomplished, from quite a different base, in some centers in which the common factor is a strong religious orientation. Where it is understood that one may be good or bad, and the child is given opportunities to develop and exercise conscience within this framework, he may sometimes choose to innovate by being bad. If adults are consistent, punishment will follow, but ideally it will be a sympathetic punishment based on the assumption that all of us are sinners, and we all need to keep trying to be good. In these circumstances it will be clear to the child that what he does makes a difference. While concomitant negative effects, such as overdevelopment of guilt, may be found within such settings, we suggest that children's developmental needs are often better met in this type of framework than in those highly impersonal settings in which there is no good or bad, love or hate, merely subtle manipulation of children who gradually learn that you can't beat the system, or make a real impact on it whatever you do.

In all of the preceding discussion we have tried to describe the amount of choice open to the teacher, to indicate some criteria which might govern her choices, and to suggest that a teacher's choices, at any given time, are determined by her perception of the desirability of simplifying or enriching the environment. Throughout this discussion the existence of flexibility has been assumed. Among the factors which contribute to flexibility for staff in day care, space arrangement and grouping of children are of particular importance. For example, privacy, which is difficult to achieve for children in day care, can be obtained in some settings by capitalizing on the difference in height between children and adults. Three-foot partitions, storage shelves, or other equipment can provide private corners for children while enabling teachers to retain their responsibilities for supervision. A similar effect can be achieved by placing toys on tables or in spaces which hold only one child. Movable screens, which can be placed temporarily to enclose an area for a child who needs to play alone, add to the teacher's capacity for meeting individual needs. Screens or irregular cot placement at nap time can also offer privacy at a time of day when it may be most beneficial to the child.

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[3] The concept of milieu therapy, which has developed in the institutional treatment of the mentally ill, has some relevance for day care. It emphasizes the potential therapeutic impact on the patient of relationships with all those in his milieu--gardeners, attendants, cooks, as well as psychiatrists. In day care all those in the child's milieu are in a position to contribute to his learning and sense of security.

Program settings in which children are ungrouped by age rated relatively high on our criteria, probably because of the opportunities they offer for both enrichment and simplification. On the one hand, the presence of both older and younger children broadens the range of play possibilities; on the other, the availability of more than one teacher makes it possible to meet children's needs for individual attention as they arise. These advantages can be utilized in essential as well as in optional settings; for example, if bathrooms are small, one teacher can be stationed in the bathroom to receive children individually as they finish toileting and give them individual attention in washing up. (In one center this was also lap-sitting time.) If, however, children are ungrouped a large part of the time, the balance provided by scheduling some small-group activities during the day probably will help refresh both teachers and children.

Improving Communication

All of these variations in program are dependent upon decisions made by the staff within the center; only they can capitalize on the possibilities which are available. To the extent that a director and teachers are able to examine program consciously in terms of experiences it offers children, they should be better able to communicate with each other and work together in carrying it out. Of equal importance, they should also be able to communicate more effectively with parents. Close relationships between home and day care always have been considered of great importance. The Child Welfare League Standards for Day Care Services (1960) recommend preadmission counseling, parent education, parent group meetings, and evaluation conferences by the staff on the problems of individual children. In actual practice we have seldom found, either among the centers visited during this study or those contacted previously, any organized attempt to work with parents. It is our opinion that this lack of communication is due primarily to an uncertainty on the part of both the parents and personnel within the center as to how they might profitably share in child rearing.

We have no doubt that large numbers of parents approach selection of a center with apprehension. Personnel in the licensing department have reported that they constantly receive calls from parents who want more than a listing of centers; they want the department to recommend a good day care center, and ask many questions about what to look for. A mother who chooses to work has few traditions or guidelines which define her rights and obligations upon placing her child in care. Unless parents are very confident and perhaps aggressive, we suspect that they accept whatever structuring of relationship the director gives.

It is our opinion that the primary focus of home-center relationships is indeed to promote integration of home and day care center, but that this can best be done by staff who have examined their program with objectivity and can give the parent specific information on what experiences it provides and, more importantly, what experiences it does not provide. Conversely, center staff need to have, in their mind's eye, a picture for each child of his home life and the experiences which it is providing. Another advantage of building relationships by focusing on the contribution which each environment offers is that it gives both parties to the communication the role of contributor and avoids much of the tension and guilt which easily arises when the emphasis is on people rather than settings and experiences.

Role of the Director

The role of the director in implementing flexibility and communication at all levels is crucial. If care of children is to be personal and meaningful, it must also be spontaneous and innovative. If it is both of these, the program will not be smoothly predictable nor predictably beyond criticism. The director not only must take responsibility for the decisions which she makes, but also must constantly communicate her reasons and convictions as to why children's needs are more important than efficiency. Specifically, we feel that she must take major responsibility for initiating communication with parents, and for interpreting and defending (if necessary) policies, practices, and needs to decision-makers outside the center.

With her own staff group, her role of providing enrichment and simplification of the environment for all staff is not unlike a teacher's responsibilities toward children. Teaching in day care can be monotonous and boring unless balanced by participation in center planning, opportunities for some contact with other adults, and the professional stimulation of visiting other centers and participating in opportunities for in-service training. The director's role of simplification requires a sure administrative hand which will clear away obstacles to personal solidarity between staff and children.

Planning Outside the Individual Center

While some types of change can be implemented by a director and teachers at the level of the individual center in its ongoing operation, other changes imply long-range planning by those responsible for the establishment and design of day care centers. Long-range planning can begin either with settings--the physical organization of the center--or people --the staff and their qualifications.

Although we have been successful in this study in discovering intercorrelations among many of our variables, in most cases we cannot be certain about the direction of influence of one variable on another. Some such questions of "which came first?" have logical answers; for example, the behavioral setting provided by physical space can influence teacher manner but not, directly, vice versa. The relationship between the director's concept of her role and the organization of space is less clear, however; does an adult-centered director organize her surroundings in particular ways, or do space limitations lead a director to adult-centered goals, or is a circular process involved? To the extent that there is circularity, effective intervention could be initiated at any point.

We shall place emphasis in this section on three variables which are stronly predictive of program quality and which appear to "come first" in making it possible: physical space, center size, and the qualifications of staff.

Physical Space

We have made a number of detailed recommendations in Chapter VIII concerning spatial planning in day care centers; consequently, in this chapter we will simply restate our principal findings. The selection of sites for day care centers is crucial to their later quality. For example, many locations for day care centers recently established under the poverty program seem to be chosen with little concern for the problems which stem from inadequate yards, lack of shade, and nonfunctional indoor space. If a day care program must share facilities (such as those of a church) it may be severely hampered in organizing space and finding adequate storage.

The location of centers in areas where a natural environment cannot be provided also limits opportunities for a rich program. Good spatial organization is more easily achieved when yards include a combination of both natural and artificial surfaces. In general, space quality is higher in settings designed to be day care centers than in those which have been converted to this use; however, converted centers are more likely than designed centers to possess combination surfaces and also adequate shade.

These findings suggest that designers of centers should incorporate the natural features of the site, particularly trees, into the plan whenever possible, and should refrain from covering the entire yard with asphalt. On the other hand, the possible advantages of converted centers should not be discounted, and good planning for the use of the existing spatial arrangement may compensate for its limitations.

In many instances designed centers suffer from some of the same limitations found in facilities converted from other uses. For example, glass walls, which present safety problems to teachers of young children, are found not only in "store-front" centers but also in recently designed facilities intended solely for day care. Consultation between designer and day care staff at an early stage in the planning should help to eliminate such inappropriate features.

Center Size

Our findings indicate that program quality is highest in centers of moderate size. Quality decreases in large centers in spite of the presence of other characteristics (teacher training and attitudes, high quality space) which are ordinarily indicative of program quality. Apparently the inherent complexity of organization in large centers serves to negate the potential effects of a favorable staff and setting; sheer size operates as a coercive factor to limit positive behavior by teachers.

These findings clearly recommend against the establishment of day care centers serving more than approximately sixty children, unless personnel and facilities of unusual excellence are available. It appears that it is particularly important that the director of a large center be a person of exceptional competence.

Program quality also decreases in small centers. This decrease is, however, almost invariably associated with the presence of other variables predictive of low quality. Small centers were most likely, in our sample, to have untrained staff and crowded facilities.

While some small centers may be permanently marginal economically, it is our impression that small centers may have the greatest potential for improvement, with even limited intervention, directed perhaps primarily toward physical organization. Some centers which appear to provide very good home-substitute care are those with untrained staff working with relatively small numbers of children in home-like settings. To some extent, it appears that small centers can be competently administered by individuals whose understanding of young children is intuitive rather than taught. It is especially as the size and complexity of the task increase, in larger centers, that the special skills of staff and their ability to communicate assume increasing significance.

Special Training of Staff

Program quality increases as the amount of special training of teachers and directors, especially teachers, increases. This finding generally supports the efforts of licensing agencies and professional organizations to establish higher standards for the preparation of teachers. Few day care personnel now employed have full professional preparation as this has been defined by national professional organizations (cf. p. 16 above); consequently, our data are not adequate to establish the importance, or lack of importance, of this level of educational background. They do, however, provide support for the value of existing, less ambitious in-service collegiate programs designed specifically for nursery and day care teachers.

Efforts by licensing, sponsoring and professional agencies to upgrade course requirements for day care staff, and initiative of staff themselves in acquiring continuing educational background, are clearly supported by our data. Day care teachers whose special training for their task has been considerable tend to provide higher quality programs for the children in their care.

Our data are not really adequate to clarify the type of preparation most appropriate for directors of day care centers. Teachers function effectively to the extent that they are capable of facilitating learning experiences for children, but directors are effective to the extent that they are able to facilitate good teaching by the members of their staff. It is our guess that effective direction depends on two factors, the ability to make clear decisions, and at the same time to remain open to and to encourage reactions from staff. Also, good directors seem to be highly committed to the importance of childhood experiences in shaping adult personality and are willing to capitalize on any opportunity which will make the day care experience more effective. Certainly the selection of a director or any personnel on an administrative level will be crucial to future program. A director must know about program for children of nursery age, but she also must have administrative ability combined with a high degree of sensitivity.

We originally hypothesized that competence of staff in day care would increase with educational level. Although our sample does not permit an adequate test of this hypothesis, it seems to us likely that professional preparation, as previously defined, may be of particular importance in giving a director confidence and a broad basis for making choices.

The Role of Licensing and Other Legislation

Legal requirements provide the framework within which day care programs develop, setting minimum standards to be met by all centers. The efficacy of these standards was evident to the observers in this study; we saw no centers in which children were obviously abused, or in which their health and safety were not well provided for.

The more intangible aspects of program quality in day care cannot be guaranteed by legislation. The consultant role adopted by the California Department of Social Welfare which licenses the majority of our sample centers is an important one in this regard. Although not all directors in our study welcomed the advice of licensing personnel, we were impressed with the large number of directors who named them as people to whom they could go for help and advice. When licensing staff are well-qualified, they are able not only to provide an invaluable source of advice to established centers, but also, and perhaps more important, to screen and counsel individuals who wish to establish centers. In this process, they are in an important position to communicate information about conditions of program quality such as those discussed above.

Of the other legal requirements to which centers may be required to conform, zoning codes should be mentioned. In many cities, day care centers may be limited to commercial areas. This limitation has implications for quality of care if commercial land is at a premium, since the amount of space a day care center can afford to use under these circumstances is likely to be minimal. Moreover, restrictive zoning may prevent the establishment of centers in neighborhoods where they are needed.

Professional Influences

At present, little documented information is available on the nature or effects of decision-making which occurs outside of centers. Legislative decisions may well have consequences which were unintended or meet with opposition from unexpected sources. There is, however, a notable lack of professional unity among those directly concerned with the practice of day care; consequently they lack an effective voice with which to respond to outside decisions which affect the services they offer.

In many professions strong and well-organized professional groups serve to mediate between practitioners and public. For example, the American Medical Association and the Bar Association are active in promoting their interests at many levels. They interpret the nature of the services they offer to the public, lobby at the legislature, and establish the standards by which individuals are admitted into the profession and retain membership in it. In contrast, day care as a profession is weak and fragmented, for reasons which stem from diversity of concerns and lack of a common base of preparation. There are, however, organized groups within day care and nursery education which might function in stronger and more effective ways if more were understood about the relationship of day care to society at large.

At present some of these groups are concerned with setting professional standards, upgrading the skills of those currently in the field, and interpreting their function to the general community. They can become more effective in this role only as they gain a broader base of support among all those actually engaged in day care, and as they are able to develop more generally understandable ways of defining just what day care is and does. A goal of this research is to contribute new insights toward this definition.

CHAPTER XII

CONCEPTUAL IMPLICATIONS

In the two preceding chapters our aim has been to present our findings concisely and simply, in terms of their potential practical application by persons directly concerned with day care and its improvement. In this final chapter we feel free, consequently, to review the process by which our variables were selected and the extent to which they proved useful, and to discuss our findings in terms of their implications for further conceptualization and research. Since we are indulging ourselves, some of the discussion will be speculative; but it relates, throughout, to our interest in tying empirical findings to useful conceptual systems and to value orientations.

Day Care as a Child-rearing Environment

Our goal in this research has been the understanding of a type of child-rearing environment. In what ways, we have asked, are environments which serve the same functions alike and different? To what extent are the developmental needs of children, and the individual needs of particular children, met by different day care environments? And what are the factors which support or undermine the capacity of an environment to provide for developmental needs?

There are, as we originally hypothesized, distinct patterns of teacher behavior and center program in day care. Both individual teachers and center staffs taken as a group differ in their overall level of activity and in their style of interaction with children. The most stable features of a teacher's behavior are (1) activity level, as indicated by amount of verbalization and number of communicative episodes, (2) emphasis on activity directed toward groups or toward individual children, and (3) the frequent use of either encouragement, with accompanying lessons in consideration and creativity, or restriction, along with lessons in control and restraint. Few teachers use both encouragement and restriction extensively; rather, they utilize one in the absence of the other. Teachers who emphasize group-directed activity are more likely to use restriction than encouragement, and they tend to maintain a relatatively high level of activity. However, teachers who direct their attention primarily to individuals, especially within a free play format, may exhibit behavior anywhere within the possible range.

Consistency of teacher behavior within centers can be seen as patterns of center program, which we have described as characterized by either freedom or restraint. Differences in teacher behavior and in program format may reflect individual teacher choice or program goals set by the director. Commonly, however, they appear to be the inadvertent result of setting factors which coerce teachers to behave in ways (active, restrictive, group-directed) which serve to compensate for inadequacies of the setting.

We have been able to predict teacher behavior on the basis of setting variables, chief among them the quality of physical space and the size of the center. Inadequate space can force teachers to active interference with children's choice of activities. Staff preoccupation with adaptation to a bureaucratic structure (an apparent characteristic of most large centers) also limits the quality of teacher-child interaction. Teacher competence, as predicted by special training, can be exerted only within the limits provided by the setting.

We feel that we have achieved substantial success in identifying certain factors which predict quality of day care program. We are very much aware, however, as is true in any research, that our choice of variables is to some extent arbitrary; there may well be other variables of importance which we have neglected. We do believe that the open-ended theoretical approach which we have employed, as described in the section which follows, has been useful in expanding the range of variables included in the study.

Selection of Variables in the Study of Environments

The number of possible approaches to the study of an environment is staggering, and throughout the study one of our major concerns has been to find conceptual frameworks which would keep us from being overwhelmed by the amount of data which could or should be available. In each step of the research, empirical findings have suggested bodies of theory which appeared helpful and these, in turn, have sharpened our conception of data which should be obtained.

The approach to the theoretical analysis of data described by Joseph Bensman and Arthur Vidich (1960) has seemed particularly well adapted to the rather flexible design of the present research. This approach is essentially unsystematic and heuristic. In it the relevance of a variety of available theories to the research problem is considered at each stage of the investigation: in stating the problem, gathering data, analyzing and evaluating findings, and reporting results. As the researcher checks his data against a number of perspectives in theory and discerns the theoretical possibilities of them, he discovers novel and previously unspecified relationships.

Our original selection of variables for defining day care settings was made on the basis of several conceptual schemes. Erikson's developmental theory (1950) guided us in identifying the types of adult-child interactions which might be most important. Barker's psychological ecology (Barker and Wright, 1954) led us to examine the regulating features of behavioral settings and the number of people in them. The basic sociological concept that social position variables serve as determinants of individual and group behavior influenced us to consider socioeconomic status, ethnicity, education, and center sponsorship as predictors of day care program. We also considered previous studies of the effects of parental attitudes on child rearing and teacher attitudes on teaching, many of which carry the methodological assumption that attitudes are predictive of behavior, in our decision to include measures of the attitudes of day care personnel.

In the course of the research we became convinced that our original measures of spatial characteristics were inadequate to describe the aspects of physical space which our observers were seeing in action. Consequently, we decided, as described in Chapter VIII, to place increased emphasis on settings as regulative of behavior. In developing a conceptualization of this emphasis we returned to Barker's writings, as well as to a variety of other sources including the architectural literature. Our introduction, midway in the research, of an elaborated scheme for describing physical space has, we believe, greatly enriched the validity and comprehensiveness of our findings. In this instance the preliminary empirical findings, supplemented by unsystematic impressions, led us to develop what we feel is the most original conceptual scheme in this study.

Our data on attitudes of day care staff enabled us both to explore the interrelationship of several attitudinal dimensions and to examine the extent to which expressed attitudes of teachers and directors were predictive of observed teacher behavior. We did find that significant behavioral differences were associated with contrasting attitudes and that the clearer the attitudes, the stronger their ability to predict behavior. Since the absolute magnitude of the differences was not large, however, investigation of possible intervening variables which interfere with putting attitudes into practice was a logical next step. It proved a fruitful step as well, since several setting variables, notably center size and physical space, were found to be more useful than expressed attitudes in the prediction of teacher behavior.

The social position variables which we included almost as a matter of course have not, with the exception of special training of teachers, proved to be of major importance in predicting day care program. Our utilization of Miller and Swanson's conceptualization of entrepreneurial and bureaucratic child-rearing patterns (1960), with the expectation that it should explain differences by center sponsorship, proved of only limited relevance. We hypothesized that each type of center would tend to reflect the values inherent in its sponsorship, along the lines proposed by Miller and Swanson. While these are complex, they were expected to include an emphasis on authority as morally given in proprietary (entrepreneurial) centers, as compared with a situation-based emphasis in public (bureaucratic) centers.

We did find that permissive, situational-based attitudes toward authority were largely limited to staff in public centers. However, public and proprietary centers were similar in the proportion of their teachers who expressed a preference for arbitrary authority, and in all types of centers this attitude was more characteristic than a clearly situation-based approach. Few differences in actual teacher behavior were predicted by sponsorship.

On the other hand, the extent of bureaucratic organization within the center, as indicated by its size, was found to have a marked effect on day care program. The larger the center, the less the likelihood of responsive interaction between teachers and children. This relationship holds in spite of the tendency for large centers to have better trained staff and somewhat better facilities. Apparently center size operates in a notably coercive fashion to limit flexibility of teacher performance.

This finding is not unexpected in terms of the ways in which social organizations are known to function. Small groups can operate informally, but as size increases, more formal structuring is necessary to efficiency. Bureaucratic organization, which by rationalizing tasks and personnel recruitment standardizes operations so that individual members can be efficiently replaced, is the most economical social structure for the accomplishment of tasks on a large scale. Further, within limits the larger the organization, the more economical its administration.

However, the strengths of bureaucracy give rise to its weaknesses. The individual member is merely a cog in the machine; he is expendable, in that he can be easily replaced. As many industrial studies have shown, individuals do not necessarily work well under these conditions; to work well, the person needs to feel his uniqueness is valued. Effective large-scale organizations thus must make some allowance for the development within them of primary groups--face-to-face units in which members respond to each other in terms of who they are, not only what they can do.

We have found it helpful to examine the extent to which primary-group solidarity characterizes teacher-child groups in day care in terms of Bales' conceptualization of the interaction process in small groups (1950). We had hypothesized that day care centers in which teachers assume a primarily instrumental, task-oriented role would be characterized by arbitrary authority, adult-centered role definition, restriction, control and restraint, associated with relatively low response from children. These dimensions were in fact clearly associated. We also expected to find, and did find, some centers in which teachers emphasized their relationships with children, assuming an expressive, morale-building role as indicated by encouraging teacher behavior, sensitive teacher manner, and interested and involved responses from children. These centers may be described as characterized by teacher-child solidarity.

This conceptualization, together with several others developed in the course of the study, has been helpful to us in translating Erikson's rather general developmental theory (1950), from which we have derived evaluative criteria based on children's needs, into specific ideas directly applicable to day care environments. Thus we can say that a day care environment in which teacher-child solidarity is absent is not conducive to children's healthy development. Day care is potentially a stressful environment for young children, involving both separation from the family and a complex set of relationships. Consequently it is essential that the teacher in day care minimize its stress, as far as possible, by assuming a primarily expressive role. It is more important that the teacher pay attention to children's feelings than to externally set tasks.

Our own observations and consideration of empirical findings have led us to develop a conceptual framework designed to identify the ways in which a teacher in day care operates and the circumstances under which she is able to do so. As the study progressed we found ourselves increasingly impressed with the usefulness of Barker's concept of behavior setting as a unit within which we could evaluate both the behavior of teachers and the experiences of children. Furthermore, by identifying settings, it became possible to compare similarities in program among centers. The opportunity to consider similarities also permitted us to perceive the vast differences within settings which were comparable, such as lunch, free choice, etc. It was at this point that we began to realize the importance of the arrangement of physical space within the activity setting.

The outcome of this analysis led us to a consideration of flexibility and novelty. In stating that program is characterized by the degree of flexibility which settings offer teachers and teachers offer children, and by the range of stimulation provided to children, we have described two dimensions. The first, flexibility--coercion, can be applied both to settings and to teachers. Some settings coerce certain types of teacher behavior; others permit relative flexibility. Within coercive settings teachers are limited in the nature and range of choices which they can make available to children; within more flexible settings, center staff can choose to offer children more or less freedom. (Some will choose, in terms of their own goals, to offer less.)

The second dimension can perhaps best be described as monotony--novelty when applied to settings, and as simplification--enrichment when applied to teacher behavior. The teacher may enrich any setting by introducing novelty into it, and she can regulate the environment provided for individual children by reducing choices or by changing or extending environmental possibilities.

High quality of day care program appears to depend on settings which offer ample flexibility to teachers, and on teachers who can accomplish their purposes by choosing appropriate activity settings and effective arrangements of space and objects within them, and by helping children to regulate their choices within these settings.

As the relationship of the teacher's role and the settings in which she must function became clearer, we found it easier to compare, in our minds, the differences in settings offered by home and day care. The recognition of these differences, in turn, clarified some of our own value orientations and biases. Although our preference for a developmental point of view which emphasizes the autonomy, initiative, and growth of self-esteem in the young child was clear from the start, our biases in favor of children who are spontaneous rather than docile, imbued with a strong sense of self and a need for privacy as well as sociability, and able to respond with curiosity to their environment came most clearly into focus during our consideration of home and day care environments. Our vague uneasiness that day care might not provide adequate opportunity for the expression of personal desires and strong emotions now assumed a more objective formulation.

Directions for Further Study

As our understanding of importance of setting factors increased, our realization of the importance of decision-making on many levels also increased. In this study, we have concentrated on the characteristics of the individual day care center, considering the type of environment it provides for child rearing, and the setting factors predictive of differences among centers. We have not, however, gone far in exploring the broader environmental factors which determine these predictive variables; thus we have identified center size and spatial organization as predictive of program quality, but we as yet know little about the circumstances which determine them. Further research should, we believe, be centered on the decision-making process at two levels.

First, what external factors determine the characteristics of day care centers? We see a need to examine the processes by which day care, as a social institution within the larger society, adapts to its environment. Little is generally known about decisions which determine the size and location of centers, the content of training programs now offered, or the ways in which individuals become professionally involved in day care.

Second, within the center staff group itself, how are decisions made? What effects will staff-induced changes in the environment have on their own behavior? We are planning a study focused on experimental change of spatial organization in a group child-rearing environment, hypothesizing that consultation with teaching staff in order to improve space will result in change in three aspects of behavior in space: the teacher's subjective satisfaction, the behavior of teachers working in the space, and the level of children's interest and involvement in play.

Finally, there are the unanswered questions concerning the effects of day care placement on individual children, whose temperament, family circumstances, and experiences in the day care setting will vary widely. Although answers to these questions may appear to be most interesting and important, our feeling is that their ultimate usefulness is closely tied to an understanding of the environments which have produced these effects.

The function of social work, according to James Plant (1966), has been "to assist the individual to make an adjustment to the total environment"; and hopefully social work also accepts the more radical function of seeking to alter environments which do not permit individuals to realize their full potential. The field of child welfare, in particular, is concerned not only with children who have difficulty in adjusting to ordinary environments, but also with children whose special needs reflect abnormalities of their home and neighborhood environments.

For these reasons it seems that social work as a profession should understand, in very specific terms, the kinds of adaptations which various environments are demanding and the richness of experience which they offer. Rapid social changes are constantly producing environments in which people must function without adequate previous experience. Any knowledge which can make the effects of environments on human beings more predictable appears to us as most useful.

APPENDIX A1

INTRODUCTORY LETTER TO DIRECTOR

Dear

We are conducting a study of program in day care centers which is financed by a grant from the Research Division of Children's Bureau of the Department of Health, Education, and Welfare, Washington, D. C.

The purpose of this study is to learn more about the similarities in environment which are provided by group care settings for preschool children and, also, the ways in which environments may differ according to such characteristics as physical setting and choice of activities. It is one of a group of long-range research studies sponsored by the Children's Bureau designed to learn more about the specific nature of a variety of environments common to children.

Your school was selected for inclusion in the study through a random sampling of schools in Los Angeles County which offer a full day program for preschool children. Within the near future a member of our staff will call you to make an appointment for a brief interview, at which time we will describe our research procedures.

This study is not sponsored by or associated with the Licensing Division of the Department of Social Welfare, the Board of Education Child Care Centers, the Day Care Division of the Children's Bureau, or any group which is currently working on Standards for Day Care. As a research study all information will remain confidential and anonymous. Although the study is housed at Pacific Oaks, it is not affiliated with the Pacific Oaks Children's School or its division of Community Service.

We hope, as a professional person, interested in contributing to knowledge in the field of nursery education (especially when combined with a day care function), you will welcome this opportunity to share your experience with us.

Sincerely,

(Mrs.) Elizabeth Prescott, Research Director

(Mrs.) Betty Jones, Research Associate

APPENDIX A2

DIRECTOR INTERVIEW SCHEDULE

Name:______________________________ School:____________________
Address:___________________________ Telephone:_________________

1. When was this school established?______________________
2. How many children are now enrolled?____________________
3. Is this your average enrollment?_______________________
4. What are the hours that the school is open?____________
5. How long have you been the director?___________________
6. (If non-profit) Do you have a board or advisory group to whom you report? (If so, describe.)______________
7. How do you have the children grouped?__________________
8. How many teachers do you have?__________________________
9. When you need a new teacher, how do you go about obtaining one?______________________________
10. Is there anything you consider unique or unusual about this school, such as facilities, program, training, or type of children?______________________________
11. What do you hope the children will get out of their experiences here?______________________________
12. What activities take a major part of your time?__________
13. Do you have any regular contacts with the children?______
    13a. (If so) What are they?______________________________
14. Do you have conferences and/or meetings with your staff?________ 14a. How often?______________________
15. How do you handle it if you feel a teacher's performance is highly unsatisfactory?______________________________
16. How do you feel about teachers' holding children or hugging them or showing affection?______________________
17. How do you recommend that teachers handle it when a child sticks close and demands attention?__________________
18. In general, how important do you think it is for children to obey?__________ 18a. Why do you feel this way?______
19. Sometimes a child will get angry at his mother or teacher and hit or kick her or shout angry things at her. How much of this sort of thing do you think adults ought to allow in a child of nursery age?______________________
20. What do you see as your most important job in supervising the (center) (school)?______________________________
21. If you had a question about a matter concerning operation of the school, such as a problem with a child, a question about curriculum, or an administrative matter, to whom would you turn for advice?______________________

Now we would like to get some background information about you, so we will know in what ways you are like or different from other directors in child care centers.

22. What is your age? ________________________
23. Have you worked in other day care centers or nursery schools? ______ 23a. For how long? ______________
24. What was the highest grade in school that you reached? ___

____________ Date: ____________ Name of school: ____________ Major:

25. What special training (if any) have you had for this job?

____________ Where: ____________ Curriculum:

____________ When: ____________ Administration:

____________ Child Development: ____________ Other:

Is Director: Negro___ Caucasian___ Spanish Speaking___
Other________________________

APPENDIX A3

EXPLANATORY LETTER TO TEACHER

Dear

We are conducting a study of program in day care centers which is financed by a grant from the Research Division of Children's Bureau of the Department of Health, Education, and Welfare, Washington, D. C.

The purpose of this study is to learn more about the similarities in experiences which are provided by group care settings for preschool children and, also, the ways in which experiences may differ according to such characteristics as physical setting and choice of activities. It is one of a group of long-range research studies sponsored by the Children's Bureau and is designed to learn more about the specific nature of a variety of environments common to children.

Your school was selected for inclusion in the study through a random sampling of schools in Los Angeles County which offer a full day program for preschool children. During the next week or two, members of our staff will visit your group to sample activities and program.

We are trying, by a rather complicated coding schedule, to keep track of the experiences of the children. To accomplish this a staff member will visit your group for ten twenty-minute periods on days prearranged with your director. When we are visiting groups we try to remain as unobtrusive as possible. We prefer not to talk with you or the children during this twenty-minute coding period. If a child does come over to talk with us, however, we do not mind. Please feel free to speak with us before or after our sampling period. If at any time our presence or choice of location interferes with your responsibilities to the children, do not hesitate to speak with us or with your director. Before we have completed our work at your school, a staff member will arrange for a short (10 - 15 minute) interview with you. At this time we welcome any questions or suggestions about our procedures.

Teachers who are not accustomed to having an outsider in their group sometimes discover that initially they feel a bit self-conscious. If you feel this way at first, you may find it helpful to remember that we are not evaluating or writing down what you say. We are only recording general categories of activities which will be treated statistically. Neither your name nor that of your school will be used (by us) in the final publication, and, of course, none of our records is available to or discussed with directors, Child Care Personnel, or the Department of Social Welfare.

We hope, as a teacher, interested in contributing to knowledge in the field of nursery education (especially when combined with a day care function), you will welcome this opportunity to share your experience with us. Since this is a three-year study, the results will not be available for some time, but we will let you know where they can be obtained when the study is completed.

Sincerely,

Elizabeth Prescott, Research Director

Betty Jones, Research Associate

APPENDIX A4

TEACHER INTERVIEW SCHEDULE

Name:____________________ School:_______________
Address:____________________ Telephone:_______________

1. How many children are enrolled in your group?__________
2. What are their ages?____________________
3. What hours do you work?____________________
4. How long have you taught in this school?__________
5. What do you hope the children will get out of their experiences here?____________________
6. How do you feel about a teacher's holding children or hugging them or showing affection?_______________
7. How do you handle it when a child sticks close and demands attention?____________________
8. In general, how important do you think it is for children to obey?____________________
   Why do you feel this way?____________________
9. Sometimes a child will get angry at his mother or teacher and hit or kick her or shout angry things at her. How much of this sort of thing do you think adults ought to allow in a child of nursery age?_______________
10. What do you see as your most important job in supervising children?____________________

Now we would like to get some background information on you, so that we will know in what ways you are like or different from other teachers in day care centers.

11. What is your age?____________________
12. Have you worked in other day care centers or nursery schools?__________ For how long?_______________
13. What was the highest grade in school that you completed?____________________

    Date: Name of School: Major:
14. What special training (if any) have you had for this job?

    Where: Curriculum:

    When: Administration:

    Child Development: Other:

Is Teacher: Negro___ Caucasian___ Spanish Speaking___
Other_______________

DIRECTOR - TEACHER

(To be used if the Director also functions regularly as a teacher)

Name:____________________________________
Address:____________________ School:____________

1. How many children are enrolled in your group?________
2. What are their ages?________________________
3. What hours do you work?______________________
4. How long have you taught in this school?__________
5. Who plans the daily activities for the children?_______
6. What do you see as your most important job in supervising children?__________________________

APPENDIX B1

CO-OCCURRENCE OF LESSONS TAUGHT

Lessons Taught Ranked #1		Lessons Taught Ranked #2
Large muscle skills	7.7%	Verbal-physical coordination
	15.4	Pleasure, awe and wonder
	7.7	Creativity & experimentation
	7.7	Control and restraint
	7.7	Can't Decide
	53.8	No lessons taught
Eye-hand coordination	5.9	Rules of social living
	5.9	Consideration
	35.3	Formal skills
	5.9	Pleasure, awe and wonder
	5.9	Creativity and experimentation
	41.2	No lessons taught
Verbal-physical coordination	2.9	Eye-hand coordination
	2.9	Rules of social living
	5.8	Consideration
	14.7	Formal skills
	5.8	Pleasure, awe and wonder
	8.8	Control and restraint
	58.8	No lessons taught
Rules of social living	7.1	Verbal-physical coordination
	3.6	Consideration
	10.7	Formal skills
	5.4	Knowledge and awareness
	1.8	Pleasure, awe and wonder
	7.1	Self-sufficiency
	1.8	Creativity and experimentation
	26.8	Control and restraint
	35.7	No lessons taught

Lessons Taught Ranked #1		Lessons Taught Ranked #2
Dealing with other children	7.7	Consideration
	7.7	Formal skills
	7.7	Knowledge and awareness
	7.7	Self-sufficiency
	23.1	Creativity and experimentation
	14.4	Dealing with strong emotions
	31.7	No lessons taught
Consideration	1.8	Large muscle skills
	1.8	Eye-hand coordination
	1.8	Rules of social living
	4.1	Dealing with other children
	1.8	Formal skills
	7.3	Pleasure, awe and wonder
	7.7	Self-sufficiency
	27.3	Creativity and experimentation
	15.4	Dealing with strong emotions
	31.0	No lessons taught
Formal skills	8.4	Eye-hand coordination
	11.3	Verbal-physical coordination
	12.7	Rules of social living
	8.4	Knowledge and awareness
	7.0	Pleasure, awe and wonder
	4.2	Creativity and experimentation
	4.2	Control and restraint
	43.7	No lessons taught
Knowledge and awareness	1.9	Large muscle skills
	3.7	Eye-hand coordination
	7.4	Verbal-physical coordination
	7.4	Rules of social living
	5.6	Dealing with other children
	18.5	Formal skills
	11.1	Pleasure, awe and wonder
	1.9	Creativity and experimentation
	3.7	Control and restraint
	38.9	No lessons taught

Lessons Taught Ranked #1		Lessons Taught Ranked #2
Pleasure, awe and wonder	2.7	Large muscle skills
	2.7	Eye-hand coordination
	18.9	Verbal-physical coordination
	10.8	Consideration
	2.7	Formal skills
	18.9	Knowledge and awareness
	5.4	Self-sufficiency
	5.4	Creativity and experimentation
	32.4	No lessons taught
Self-sufficiency	4.5	Eye-hand coordination
	4.5	Verbal-physical coordination
	2.3	Rules of social living
	13.6	Dealing with other children
	4.5	Consideration
	2.3	Formal skills
	2.3	Pleasure, awe and wonder
	9.1	Creativity and experimentation
	2.3	Control and restraint
	54.5	No lessons taught
Creativity and experimentation	6.4	Eye-hand coordination
	6.4	Dealing with other children
	12.9	Consideration
	9.7	Formal skills
	12.9	Knowledge and awareness
	12.9	Pleasure, awe and wonder
	3.2	Self-sufficiency
	3.2	Control and restraint
	32.3	No lessons taught
Control and restraint	1.8	Large muscle skills
	1.8	Eye-hand coordination
	21.4	Rules of social living
	1.8	Consideration
	7.1	Formal skills
	10.7	Knowledge and awareness
	55.3	No lessons taught
Dealing with strong emotions		Not selected as a first choice

Lessons Taught Ranked #1		Lessons Taught Ranked #2
Can't Decide	0.7	Large muscle skills
	6.4	Verbal-physical coordination
	8.5	Rules of social living
	3.5	Dealing with other children
	10.6	Consideration
	9.9	Formal skills
	4.3	Knowledge and awareness
	2.1	Pleasure, awe and wonder
	5.0	Self-sufficiency
	5.0	Creativity and experimentation
	5.0	Control and restraint
	39.0	No lessons taught
No lessons taught	0.8	Skills involving large muscles
	2.1	Eye-hand coordination
	1.3	Verbal-physical skills
	6.3	Rules of social living
	2.3	Dealing with other children
	2.5	Consideration
	2.2	Formal skills
	1.2	Knowledge and awareness
	1.2	Pleasure, awe and wonder
	3.5	Self-sufficiency
	3.0	Creativity and experimentation
	5.2	Control and restraint
	0.1	Can't decide
	68.1	No lessons taught

APPENDIX B2

COMPLETE LISTING OF FACTOR LOADINGS ON FOUR TEACHER BEHAVIOR PATTERNS FROM FACTOR ANALYSIS

CATEGORIES OF TEACHER BEHAVIOR	TEACHER BEHAVIOR PATTERNS			
	I	II	III	IV
[Eigenvalues:	8.93	7.46	4.70	2.61]
(N=104 Teachers)				
Non-communicative	.10	.01	-.41	.47
All Behavior Directed To:				
Individuals	.25	.90	.21	-.11
Subgroups	.06	.30	.17	.13
Groups	-.24	.02	.72	-.04
Encouragement				
All encouragement	.81	.24	.26	-.09
All nonroutine encouragement	.87	.15	.17	.03
All routine encouragement	.34	.31	.35	-.29
Approval/nurturance to individuals	.68	.15	.00	-.06
Nonroutine to individuals	.89	.20	.11	-.01
Teacher Direction				
Teacher suggestion to individuals	.10	.21	.63	-.29
Teacher approval to individuals	-.16	.22	.59	-.16
Guidance				
All guidance	-.18	.76	.27	-.01
Total guidance to individuals	-.08	.83	.12	-.02
Restriction				
All restriction	-.62	.59	-.07	-.10
Total restriction to individuals	-.57	.63	-.10	-.10
Neutral				
All neutral	.19	.84	-.20	.13
Information exchange to individuals	.32	.77	.05	.05
Care of physical needs to individuals	-.01	.51	-.55	.22
Total neutral to individuals	.21	.81	-.30	.17

CATEGORIES OF TEACHER BEHAVIOR	TEACHER BEHAVIOR PATTERNS			
	I	II	III	IV
[Eigenvalues:	8.93	7.46	4.70	2.61]
(N=104 Teachers)				
Verbal Skills				
All verbal skills	.10	.12	.64	-.08
Interpretive to individuals	.47	.59	.19	-.15
Total verbal skills to individuals	.48	.42	.47	-.20
Lessons Taught				
Physical skills				
Large muscle	.05	-.28	.18	.13
Eye-hand coordination	-.13	-.07	.16	-.15
Verbal-physical coordination	-.19	-.13	.54	.11
Social skills				
Rules of social living	-.31	.25	.34	.15
Dealing with other children	.28	-.10	.01	.36
Consideration	.53	.12	-.05	.39
Intellectual skills				
Formal skills	-.16	-.03	.67	-.06
Knowledge and awareness	.11	-.04	.34	.00
Pleasure, awe and wonder	.33	-.11	.24	.24
Self-Responsibility				
Self-sufficiency	.16	.03	-.21	.59
Creativity	.52	-.04	-.12	.22
Control and restraint	-.68	.31	.01	.01
Dealing with strong emotions	.23	-.04	-.14	.50
Total Lessons Taught	.11	.25	.58	.71
No Lessons Taught	-.02	-.25	-.51	-.67
Predictive Variables				
Sponsorship	.10	-.13	-.23	.40
Hope for children's experiences	-.30	-.07	.21	.00
Emphasis on educational content	-.20	-.13	.14	-.07
Attitude toward affection	-.58	.00	.14	-.12
Attitude toward dependency	-.45	-.03	.08	-.06
Warmth	-.59	-.04	.11	-.14
Explained or arbitrary requests	-.40	-.12	.03	-.14
Permissiveness toward aggression	-.55	-.04	-.01	-.12
Most important job	-.34	.00	.11	-.09
Teacher's role content	-.29	-.10	.06	-.03
Special training	.40	.01	-.01	.24
Space group	-.30	.10	.03	-.19

CATEGORIES OF TEACHER BEHAVIOR (N=104 Teachers)	TEACHER BEHAVIOR PATTERNS			
	I	II	III	IV
[Eigenvalues:	8.93	7.46	4.70	2.61]
Global Ratings				
Teacher verbalization	.06	.61	.45	-.15
Tempo	-.05	.40	.45	-.12
Children's responses	.70	-.29	.04	.11

APPENDIX B3

FACTOR LOADINGS ON FOUR CENTER PROGRAMS ANALYZED ACCORDING TO TEACHER BEHAVIOR AND LESSONS TAUGHT

CATEGORIES OF TEACHER BEHAVIOR	CENTER PROGRAM PATTERNS			
	I	II	III	IV
(N=50 centers) Eigenvalues:	10.56	5.62	3.63	2.60
Non-communicative	.18	.44	-.27	.30
Communicative to:				
Individuals	.11	-.05	.82	.34
Subgroups	.16	.55	.08	-.18
Groups	-.27	-.31	-.84	-.18
Encouragement				
All routine encouragement	.07	.07	-.01	-.84
All nonroutine encouragement	.78	.12	.45	.02
Routine to individuals	.07	.08	.05	-.83
Total to individuals	.63	.11	.40	-.11
Teacher Direction				
All teacher direction	-.10	-.82	-.50	-.16
Teacher suggestion to individuals	.11	-.82	-.09	.13
Teacher approval to individuals	-.37	-.58	-.15	-.04
Total to individuals	-.05	-.89	-.13	.10
Total to groups	-.13	-.46	-.69	-.28
Guidance				
All guidance	-.66	.32	-.35	.15
Total to individuals	-.60	.26	.00	.19
Total to groups	-.45	.01	-.70	.07
Restriction				
All restriction	-.86	-.01	-.04	-.05
Total to individuals	-.84	-.06	.06	-.07

CATEGORIES OF TEACHER BEHAVIOR	CENTER PROGRAM PATTERNS			
	I	II	III	IV
(N=50 centers) Eigenvalues:	10.56	5.62	3.63	2.60
Neutral				
Information exchange to individuals	.01	-.18	.46	.43
Care of physical needs to individuals	.16	.50	.03	.48
Total to individuals	.13	.28	.30	.64
Verbal Skills				
All verbal skills	.09	-.65	-.12	-.44
Total to individuals	.21	-.56	.42	-.23
Total to groups	-.11	-.41	-.66	-.33
Lessons Taught (ranking)	-.11	.31	-.13	-.08
Physical skills				
Large muscles	.17	-.04	.05	.00
Eye-hand coordination	.01	.06	-.30	.06
Verbal-physical coordination	-.03	-.02	-.44	.12
Social skills				
Rules of social living	-.68	-.32	-.14	-.11
Dealing with other children	.59	.19	.13	.18
Consideration	.34	.04	.58	.11
Intellectual skills				
Formal skills	-.26	-.50	-.34	-.24
Knowledge and awareness	.07	-.50	.41	.03
Pleasure, awe and wonder	.59	.15	-.23	-.07
Self-Responsibility				
Self-sufficiency	.18	.46	-.04	.37
Creativity and experimentation	.55	.26	.44	-.10
Control and restraint	-.86	.17	-.10	-.22
Dealing with strong emotions	.30	.16	-.12	-.15
Global Ratings				
Teacher manner	.83	.03	.22	.05
Children's responses	.71	.13	.25	.07

APPENDIX C1

Equipment and Determination of Variety

List of kinds of equipment reported by observers
* Category used in determining variety

A. Simple

LARGE ROCKERS* AND
SMALL ROCKERS*
  Rocking boat
  Cradle board
  Teeter-totter
  Bench glider
  Spring horse

CLIMBING UNITS* AND HANGING
AND SWINGING UNITS*
  Climbing steps
  Jungle gym
  2 ramps with bench between
  Monkey bars
  Tree stump
  Jumping board
  Hanging bar(s)
  Rings

SWINGS*
  Swings, double and single

WHEEL TOYS* ("vehicles" reported too often by observers to allow division into several categories)
  Trikes
  Pedal car
  Wheelbarrow

SLIDES*
  Sliding pole
  Slide

"EMPTY HOUSE TYPE" no idea*
  Large hollow empty crate
  Crawl barrel, tunnel

"EMPTY HOUSE TYPE" idea*
  Playhouse empty
  Tent, teepee
  Stripped car, "stagecoach" train; etc.--no props.

SINGLE PROPS*
  Saw horse
  Moveable partition
  Board
  Playhouse equipment--1 piece--no props
  Sandbox or sand table--no equipment

MISCELLANEOUS
  Merry-go-round*
  Ball, tether ball*
  Tire(s)*

APPENDIX C1
(Cont.)

B. Complex and Super-units

HOUSE TYPE*
- Playhouse--well stocked
- Stripped car, "stagecoach", train--with props
- Playhouse equipment--one piece with props or several pieces
- Table with dolls and doll clothes
- Stuffed animals
- Empty playhouse, raised and reached by ladder
- Theater

BUILDING EQUIPMENT*
- Building blocks
- Group of wood crates--manipulatable
- Saw horses with boards and boxes
- Pile of bricks

ART ACTIVITIES* (includes flannel and chalk boards)

TABLE TOYS*

MANIPULATABLE CARS, TRUCKS, FIGURES, ETC.*

BOOKS*

DIGGING AREA AND EQUIPMENT*
- Sand, dirt, water, on ground or table

ANIMAL* with or without cage

WATER PUMP with water*

CLIMBING TREE*

APPENDIX C2

Summary Rating of Indoor Space

The indoor space accompanying each play yard was rated on several dimensions. One relates to interest level (relative amount of equipment); one to basic organization (whether or not the total indoor space arrangement is functional); and all others to various spatial qualities (such as crowding and high noise level), which we feel affect the extent to which children and staff can use the existing interest and organization.

These ratings were summarized both to provide a measure of indoor quality and to be used as part of an overall space quality rating. Because our criteria for indoor space are far more impressionistic than those used in rating outdoor space, a more detailed analytic scheme was not used.

A. Indoor organization: based on sum of sub-scores for negative factors defined as follows:

APPENDIX C2
(Cont.)

Definition of negative factor	sub-score
A) Space not functional or observers disagree as to whether space is or is not functional*	1
B) Crowding factors	
a) Rated as crowded on observations from center	
19 - 29% of time	1
29% or more	2
b) Number of children relative to amount of space	
moderately crowded	1
maximally crowded	2
c) Amount of space cramped or limited--one room--children grouped	1
d) 60 or more children grouped, space accoustically single	1
C) Noise level high	2

---

* The rating of inddor space as functional was based on the observer's judgment of whether the total space arrangement facilitates or impedes the usual course of events for the staff and children. In eight cases observers either disagreed on this rating, or reported that although the space was non-functional, staff effort eliminated any negative effect on the children. However, except for certain very specific instances, this ambiguous category does not appear to differ appreciably from space which is clearly non-functional. In the analysis, unless otherwise indicated, we have grouped the two into one category of non-functional space.

APPENDIX C2
(Cont.)

Sum of sub-scores of negative factors	Indoor organization score	N
0	1	20
1	2	19
2 - 3	3	19
4 - 6	4	11

B. Indoor interest: based on amount of equipment (this is based on observer impressions and cannot be defined with accuracy).

Definition	Indoor interest score	N
Equipment above average	1	22
Equipment average	2	31
Equipment below average	3	16

The general measure on indoor quality is based on the sum of scores for organization and interest, as follows:

Sum of Scores	Indoor quality	N
2 - 4	Above average	38
5 - 7	Below average	31

APPENDIX C3

Summary Rating of Outdoor Quality for Use in Measuring Overall Quality

We simplified our original analysis of yard quality with the aim of providing a combined measure of overall space quality, both outdoor and indoor. Our rating schemes were derived largely from inspection of the frequency distributions of the data; categories are defined so as to yield comparable N's in each. Ratings made on this basis thus divide our sample approximately at the median and first and third quartiles, with respect to space quality.

Outdoor space was rated in terms of accessibility and interest level as follows:

A. Accessibility of equipment: relationship between organization and amount to do per child.

Definition	Sub-score for outdoor quality
Organization maximum	1
Organization moderate or minimum; 1.6 or more units per child	2
Organization moderate; 1.5 units or less per child	3
Organization minimum; 1.5 units or less per child	4

APPENDIX C3
(Cont.)

B. Interest of Equipment

Definition	Sub-score for outdoor quality
Yard has super-unit	1
Yard has 4 or more complex units* and no super-units	2
Yard has 3 or fewer complex units** and 11 or more simple units and/or variety rated 8 or more	3
Yard has 3 or fewer complex units; 10 or fewer simple units and/or variety 7 or less	4

* 2 or more in yards for younger children
** 1 or none in yards for younger children

The summary rating of outdoor quality is based on the sum of accessibility and interest sub-scores as follows:

Sum of sub-scores	Outdoor quality category	N
4 or 5	High	19
6 or 7	Moderately high	16
8 to 12	Below average	34

APPENDIX C3
(Cont.)

Overall Quality

The following characterization of overall quality is based on the relationship between a yard and its associated indoor space. There are six major and one minor quality categories.

Characterization of Overall Space Quality

(N's in parentheses)

Characterization of Overall Space Quality	% Crowded*	Mean yard Quality*
High quality outdoors; above average indoors. (N=11)	18.0%	1.5
Moderately high quality out; above average indoors. (N=14)	26.0	2.7
Above average outdoors; below average indoors. (N=9)	33.0	3.4
Above average indoors; below average outdoors. (N=10)	40.0	5.1
Below average indoors and outdoors; not noisy. (N=11)	72.0	4.5
Below average indoors and outdoors; noisy. (N=12)	92.0	5.6
Low quality plus noise in; moderately high quality out. (N=2)	----	2.5

* Both percent of yards crowded and mean yard quality were introduced as a rough check on the validity of the scheme.

APPENDIX C4

Check List for Rating Space

SPACE ANALYSIS

School: ____

1. Does the yard have sub-yards?
2. Which yard is being described?
    Entire yard___________ Sub yard______________
3. Number of adults available to supervise yard?
4. Number of children using yard at one time?
5. Age of group using yard?
6. Yard size--estimate--
    a. Very small, approximately room size, 10 x 14 sq. ft.
    b. Small, 15 x 30 or 40 sq. ft.
    c. Average, 1/2 a city lot.
    d. Large, lot size
    e. Very large, larger than 50 x 125 sq. ft.
7. Yard shape (roughly)
    square__________, oblong_________, irregular_____.
8. Boundaries of yard
    a. Mostly physically defined, and easily seen.
    b. Mostly physically defined, but not easily seen because yard is very large of yard shape makes part of yard invisible.
    c. Not defined physically in some large part.
9. Yard base
    a. Proportion of total yard area covered by play units and their boundaries.
        1. Almost all_____
        2. About 2/3_____
        3. About 1/2_____
        4. About 1/3_____
        5. Very little_____
    b. Uncovered yard area--space not covered by physical objects.
        1. Natural (grass, weeds, dirt, etc.)_____
        2. Artificial (asphalt, cement)_____
        3. Combination--yard impresses one as having both natural and artificial base_____

APPENDIX C4
(Cont.)

10. Sketch the pathway--indicating approximate width (or widths).
11. Relation of inside to outside space.
    - a. Inside space opens immediately to outside_____
    - b. Inside has close access but not directly open_____
    - c. Inside and outside are separated_____
12. Problem areas.
    - a. Arrangement of equipment creates conflict-- Describe:_____
    - b. Teacher interpretation of use creates confict-- Describe:_____
    - c. Yard has special problems (i.e., lack of shade, broken equipment, noise level, etc.) Describe:_____
13. Inside space
    - a. Is inside space footage adequate?
        - 1. cramped_____
        - 2. somewhat limited_____
        - 3. average_____
        - 4. roomy, spacious_____
        - 5. exceptionally large_____
    - b. Noise level, inside
        - 1. high, deafening_____
        - 2. average_____
        - 3. no problem_____
    - c. Equipment
        - 1. Inadequate_____
        - 2. Less than average_____
        - 3. Average_____
        - 4. More than average_____
        - 5. Extensive_____
    - d. Relation
        - 1. Is space functional?_____
14. Can children see beyond the fence? (Describe briefly)

Comments:_____

* * *

APPENDIX C4
(Cont.)

DESCRIPTION OF PLAY UNITS

Note: List each play unit by name; if it has a physical top, roof, back, and/or sides, and whether fixed or not.

Simple	Complex	Super-unit	Potential
			. Boundaries without content
		Potential--super-unit--Describe:	2/ contents without boundaries

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